The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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10 Almada, 9s. 6d.	10 Glyn.	100 Rookhope, 15s.
50 Assheton, 28s. 9d.	50 Gt. West Van, 10s. 6d	40 Richmond, £8⅞.
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10 Birdseye.	5 Glenroy.	15 So. Rom. Grav., 17s 6d
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10 Chapel House, £2¾.	40 Pennerley, 38s.	5 Van, £37½.
5 East Van, £7½	10 Parys Mount., 16s. 6d.	30 Van Consols, 38s.
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10 Chontales, 8s. 6d.	25 Ladywell, 25s.	70 Parys Mount., 17s. 6d.
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10 East Van, £7¾.	50 North Laxey, 18s. 6d.	20 Santa Barbara, 34s.
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10 Glyn, £3½.	15 Pennant.	30 Van Consols, £1 18s 9.
10 Glenroy, £3¼.	100 Port Phillip, 7s. 3d.	25 W.Tankerville, £1 18 9
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Assheton	£ 1	£ 1½	Pennerley	£ 1¾	£ 2
Birdseye Creek	¾	1	Penstruthal	14s.	16s.
Carn Brea	36	38	Plynlimmon	4s.	6s.
Chapel House	2¼	2½	Prince of Wales	6s.	8s.
Devon Great Consols	2½	3	Richmond	8¼	8½
Eberhardt	9¼	9½	Roman Gravels	14¾	15¼
East Caradon	1	1½	Rookhope	11s.	13s.
East Van	7	7½	Rossa Grande	1s.	1s. 6d.
Exchequer Gold	1¾	1⅞	Santa Barbara	1½	1⅝
Flagstaff	1¾	1⅞	San Pedro	1¾	1⅞
Glenroy	6	6½	South Aurora	9s.	11s.
Glyn	3	3⅛	South Condurrow	3½	4
Great Laxey	16½	17	Sweetland Creek (x d.)	9s.	11s.
Great West Van	9s.	10s.	Tankerville	9¾	10
Hingston Down	10s.	15s.	Tincroft	18	19
Ladywell	1⅛	1¼	Van	36	37
Llanrwst	1½	1¾	Van Consols	1¾	2
Marke Valley	1¼	2	West Chiverton	16½	17½
North Laxey	17s.	19s.	West Tankerville	1⅝	1⅞
New Quebrada	3¼	4	Wheal Crebor	2	2¼
Old Treburgett	5s. 6d.	6s. 6d	Wheal Grenville	¾	1
Parys Mountain	16s.	18s.	Wh. Kitty (St. Agnes)	1¾	2¼
Pateley Bridge	3¼	3¼			

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West Pateley Bridge.	Old Treburgett.	Cedar Creek.
Llanrwst.	Parys Mountain.	Chontales.
Chapel House Colliery.	West Tankerville.	Don Pedro.

Public attention is evidently turned to good Mining Enterprises, which afford great profits with small outlay. A large business is being transacted in the following, J. S. having Special Business:—
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FOR SALE, at annexed prices, net:—

20 East Van, £7¾.	80 Rookhope, 15s.	40 Richmond, £8 8s. 9d.
50 Pennerley, 37s. 6d.	65 Parys Mount., 16s. 9d.	60 Flagstaff, 39s. 9d.
40 W. Tankerville, 39s.	40 Van Consols, 38s.	85 Sweetland, 14s.
25 Glyn, £3½.	60 Penstruthal, 16s.	70 Birdseye Creek, 19s.
100 Nth. Laxey, 18s. 9d.	30 Marke Valley, 38s. 9d.	45 Frontino, 43s.
65 Ladywell, 25s. 6d.	75 Assheton, 23s.	60 Javali, 6s. 6d.
30 Chapel House, 47s. 6d.	40 Exchequer, 40s.	150 Rossa Grande, 1s. 6d.
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Cathedral (New issue)	29s.	31s.	Roman Gravels	£ 14½	£ 15
Devon Great Consols	3	3¼	Richmond	8⅜	8¾
Eberhardt	8⅞	9½	South Condurrow	4⅛	4⅜
East Van	7½	7⅝	Tankerville	10	10½
Emma	½	¾	Tempie	2	2¼
Glyn	2⅞	3⅛	Tincroft	16¾	17¼
Great Laxey	16¾	17¼	Van	35⅝	36½
Great West Van	9s.	11s.	Van Consols	1¾	2
North Laxey	18s. 6d.	19s. 6d.	West Assheton	1⅝	1¾
Parys Mountain	16s.6d.	17s.6d.	West Chiverton	17	17½
Pateley Bridge	3½	3¾	Wheal Kitty	1⅝	1⅞
Pennerley	1¾	2	West Pateley Bridge	5	5½

Specially recommended for Investment:—Great Laxey, Glyn (working on the Van lode), Van, Cathedral (in the rich Gwennap copper district), Pateley Bridge, Penstruthal, West Pateley Bridge, and Parys Mountain.
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60 Birdseye, 20s.	70 I. X. L., 21s.	40 Rookhope, 12s.
75 Chapel House, £2 7s 6.	100 Javali, 6s.	10 Roman Grav., £5.
100 Cedar Creek, 13s. 9d.	30 Llanrwst, 32s. 6d.	30 Richmond, £8¼.
25 Condes of Chili.	70 Ladywell, £1½.	60 Santa Barbara, 30s.
75 Emma, 12s. 6d.	75 North Laxey, 19s.	50 St. Patrick, £1½.
50 Exchequer, £2.	30 Oregon, £4½.	70 Sweetland Creek 13s 4.
15 East Van, £7¼.	70 Parys Mount., 17s.	20 Tankerville, £9¾.
35 Eberhardt, £9.	20 Pennant, £5½.	15 Van, £37.
70 Flagstaff, £1¾.	50 Pennerley, £1 16s. 3d.	50 Van Consols, £1 18s 9.
50 Glyn, £3.	30 Prince of Wales, 7s 3d	70 W. Tankerville, £1 6 3
	100 Penstruthal, 15s.	

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Royal School of Mines.

PROF. SMYTH'S LECTURES ON MINING—No. XXXIV.

[BY OUR SPECIAL REPORTER.]

The question of sinking in actual water by the method which we considered at the end of the last lecture has proved to be not only feasible but economical. There have been some cases of failure where inexperienced persons have attempted to apply a similar method, with slight alterations, to avoid breaking the patent. Near the town of Mons there might be seen a remarkable instance, in which close upon 100,000*l.* was spent to get a shaft down, and yet it had only gone down a few fathoms, while Kind and Chaudron had been successful in getting their shaft down to the bottom of the difficult ground. There is one more point to be noticed in the lowering of the great mass of tubbing. There is fastened by means of flanges to one the segments a casting of a sort of diaphragm, or false bottom, across the shaft. In the centre of the diaphragm is a tube, in which water can rise as the mass descends in the shaft. Although the water which is in the shaft gradually rises up this tube, the pressure of the water below on the diaphragm supports a very large proportion of the whole weight; and the weight can be increased if required by letting in some water on to the top of the diaphragm, or lessened again by pumping this out. In the case of a shaft where the total weight of the tube was 800 tons not more than 40 tons at any time was allowed to rest on the rods. The principal Government Inspector of Belgium reported that he was satisfied that certain sinkings carried out by this method cost not more than one-third what they would have cost by the ordinary method.

It is very important to recollect that, according to what may be needed, we may in some cases commence the shaft at several different points, whilst in other cases we can only commence at the surface. In mines, for example, where an inclined shaft has been put down in the lode, and after a time it is found that it would be better to have a perpendicular shaft, a careful survey will be made, and cross-cuts driven out to the proper points, and then from some or all of these shafts will be begun upwards and downwards. And this in some instances has been actually the means of saving the mine for some years, seeing that if the shaft had to be commenced at the surface in hard ground it might have taken several years. There is another point connected with sinking—that is it is extremely desirable to take great precautions for the safety of the men. In sinking perpendicular shafts, as in the collieries, it is usually the case that they have no precautions, except a careful banksman, to prevent strangers coming up to the mouth. Consequently, when a brick or bucket happens to fall it is almost sure to be fatal to someone, and, unfortunately, accidents are extremely frequent. The plan more usual on the Continent, and in most metalliferous mines, is to have some sort of staging, or penthouse, to shelter the men. Of course, it may be said that in the former case the ventilation is more free and open, but a little arrangement would soon put that right. In the metalliferous mines the shaft will be carried down to a point where a sollar can be put in, and below that sinking will be carried on with special precautions. Stemples are put in, the boards placed on them, and then a few feet thickness of attle placed on: so that if the iron kibble happens to break away there is very little chance of it going through. A windlass below this mass of timbering, or penthouse, draws up the material to the staging, and a little to one side is the place for the kibble to come down. There is no doubt that this penthouse saves a great number of lives. We have to recollect that all the other precautions for conveying things in the shaft are vastly more inferior in metalliferous mines than in collieries, so that there is much more reason for penthouses being put in the former case.

Having considered the question of driving horizontal levels, and of sinking and securing vertical openings, we have now to consider how best to remove the great bulk of the mineral lying between the levels. There will be a great difference in the manner of working, according as to whether the mineral is disseminated throughout the vein or confined to particular parts of it, and whether the veinstuff be soft, so that you can take it out completely when once you commence to work it. In many mines you may notice that the ground worked away comes in in a number of irregular patches, perhaps with a tendency to shoot in some particular direction, and that the dead ground is as much as, or more than, the ground worked away. The French employ the term "exploitation" to all connected with the working away of the mineral. We have to consider the inclination, thickness, substances of which composed, depth at which it occurs, the character of the ground on either side, and also as to whether the whole of the material has to be taken away, as in a good seam of coal or ironstone, or only a portion, as in the majority of mineral veins. All these matters have to be taken into consideration in determining the method of working any particular deposit. There are a few general rules to be kept in view throughout the exploitation.—1. One of the objects to be remembered in making the arrangements is the keeping clear of water. This has been often transgressed where it has been attempted to make a small mine pay. It must be borne in mind that water makes its way through mining ground at very different rates, according to the nature of the ground; sometimes you have to drive almost into a place before you can release it of water.—2. The way in which you should dispose the works with respect to the shafts and levels as to make the carriage and transport of mineral and the haulage economical.—3. Attention to ventilation, not to work in the face of a deficient ventilation; and this is not only for the safety and health of the men, but also because it effects a saving of time (that is, not having to wait a long time for the gunpowder smoke, &c., to clear away), and because in a bad ventilation men cannot exert their full powers.—4. Always to keep certain portions of the work in a state of advancement, making preparations for this ultimate exploitation, and this is a vital and most essential point in respect to lode working.—5. The disposition of the men in the most efficient way throughout the mine, disposition of the working places so that the greatest number of men may be brought to bear with advantage, and yet that they be not overcrowded; this depends on the special character of the vein to a great extent.—6. The question of extracting the total useful mineral without waste, or danger to the men or the mine.—7. There are certain cases where the surface of the ground has to be looked to, and to be considered as to the effect likely to be produced by the underground workings—*e.g.*, when passing under the sea, or under cottages, gardens, roads, &c.

The general plan of laying out these operations in collieries and open work we have seen consists in dividing the ground into a series of steps, what the metallic miners call stoping, and this will take place with more or less regularity according to the nature of the ground. In some cases the men climb up to their work by the aid of a chain, or up steps cut in the sides, on to the stage on which they work. The method applied in metalliferous mines up to the end of the last century, and still to be seen in a great many mines, is that known as underhand stoping (German, *Stossen-bau*). The floor of the level is replaced by timbers, and then a succession of stopes, or steps, is worked, each 6 or 7 ft. high, and 3 or 4 fms. between the stopes. The stopes might also be commenced from the shaft, standing on transverse timbering. Some means has to be provided for disposing of the attle, and a number of boards, therefore, put in (stulls, or buntings—German, *Buhne*), and on these the rubbish will be thrown, so that as the working advances forward and in depth these stages have to be continued and multiplied. There will obviously be a difficulty of getting the mineral up to the level if we adopt the usual mode, so that spaces are left from time to time, and windlasses are put in over a small shaft for hoisting the material, and the method entails a great deal of underground manual labour in winding windlasses. This miserable system of mining may still be seen in some old mines, working from hand to mouth. But in the German mines in the last century, and introduced into this country at the end of the century, was brought out the method of overhand stoping, or *Firsten-bau*. The usual plan is commencing from a shaft or a winze to take away a stope about 6 ft. in height, replacing the natural roof of the level by timbers. The attle is thrown behind, and forms an inclined plane, on which you can mount up to the upper workings. The level below subserves the purpose of a hauling level; the ore is got rid of by fitting a little shaft up with dry stone or rough timber, through which the stuff can be dropped into the level below. In many cases, where they are not very particular about keeping their levels open, they let it accumulate below; but this a clumsy way, the material should be removed to the plat, or else a trapdoor should be placed at the bottom of the small shaft so that the mineral might accumulate in that until it was allowed to fall out into the wagons underneath. On comparing the two methods you see, first, the one must be extremely economical as regards woodwork when compared with the other; then, a large amount of wages is saved by doing away with the windlass work; and, in the third place, there is the question whether a man cannot get a much larger quantity where the ground is hanging—in most mineral veins he can. There are certain instances in which the method of underhand stoping will still have to be employed. Take the case, for instance, of ground in which you have cross joints, fissures in different directions, in the overhand method the man would be working in a dreadful trap. Again, if you have very heavy ground, and have to use the double handed hammers, the underhand method may be found preferable. Lastly, where you have very valuable minerals, either as principal or secondary products, if the rock falls on to a mass of attle, as in the overhand stope, a great deal of mineral may be lost, while in the other method it will fall on to a floor, which can be cleaned, and spread with boards, or even cloths. Although underhand stoping may have to be employed in certain special cases, yet in the majority of our mines, all through the German mines, and in other countries, overhand stoping is followed. There are some districts where it is difficult to get the men to change from one system to another; among these is the South of Spain. In this district are a number of lead mines, working thoroughly well by a system of underhand stoping: two sets of stopes incline towards a central part; and there is one advantage here—that the working is not begun till the preparatory work is complete, and then the ore is thrown down a small central shaft into the level below.

VISIT OF THE SOUTH WALES INSTITUTE OF ENGINEERS TO LANCASHIRE AND YORKSHIRE.

In last week's Journal we noticed the visit of the South Wales Institute of Engineers to Lancashire, so far as Wigan was concerned, and we now propose to briefly trace the progress made to the end of the week, until the party returned home on Saturday. On Wednesday a visit was paid to the extensive works of Sir Joseph Whitworth and Co., where an opportunity was afforded of seeing some of the finest machinery and appliances of which Lancashire can boast; and from there the party proceeded to the recently-erected Town Hall, a magnificent building, built partly in the gothic style, and at a cost of upwards of 1,000,000*l.* sterling, and where they were met by the Mayor, Mr. M. Curtis. After that train was taken to Worsley Station, for the purpose of inspecting the extensive collieries belonging to the Duke of Bridgewater's trustees, and the underground canals, by which the coal is taken direct from the bottom of the pits instead of going to the surface. Much interest was shown in the peculiar features belonging to these well-known collieries and works, after which the party returned by the canal to the Bridgewater Arms Hotel, where luncheon was provided. A trip was then made to the well-known collieries of Messrs. Andrew Knowles and Sons, at Pendlebury, which brought the day's proceedings to a close, the party returning to the Queen's Hotel about seven o'clock.

On Thursday the extensive boiler works of Daniel Adamson and Company, at Hyde, where the greater part of the work is done by machinery. A few minutes walk took the party to the well-known Dukinfield Colliery, the shafts being the second deepest in England. The Black-mine coal, the most valuable in the district, is there worked at a depth of 687 yards from the surface. Proceeding from thence to Manchester, and on to Burnley, a visit was made to the Bank Hall Colliery, belonging to the executors of John Hargreaves, where the haulage underground is done by means of the endless chain. This, for all useful and practical purposes, brought the visit to Lancashire to a close. Friday morning the engineers were up betimes, all anticipating a pleasant journey into Yorkshire, the southern part of which in particular has peculiar attractions for mining engineers, being well known not only for its valuable seams of coal, but also for the fiery character of its mines and the terribly fatal explosions which have taken place in it. Starting shortly before seven o'clock from the London Road Station of the Manchester and Sheffield Railway, Dodworth, situate about two miles from Barnsley, was reached. Here the extensive colliery known as Dodworth Lane was inspected, and the party during the day had an opportunity of witnessing the work done by the three best-known fans now at work—the Guibal, the Schiele, and the Leeds. At Dodworth the ventilation is produced by a Guibal fan, the Silkstone seam being at a depth of 216 yards from the surface. The fan, which was made by Scarbrook and Co., is 40 ft. by 12 ft., and with 35 revolutions per minute, with the water-gauge in the engine-house at 1½ in., about 130,000 cubic feet of air per minute is given.

There are some peculiar features connected with the colliery which were pointed out by the resident manager, Mr. C. Beevors. Cabs and omnibuses were on the ground, and the party were taken on to Barnsley amidst a heavy downpour of rain, which lasted all the day. After a short stay at Barnsley for refreshment, a start was made for the well-known Oaks Colliery, where in 1866 no less than 360 lives were lost by an explosion. The South Wales engineers were met by the resident engineer, Mr. Jas. Wilson, and were taken through the workings. Here it may be said that there are at present about 60 bodies still left in the pit, and only so recently as Monday two of them were brought out, after being buried nearly 10 years. The Guibal fan was inspected, and particular attention was also paid to the ventilation at the old colliery, which is by means of the furnace. From the Oaks to the Cortonwood Colliery, a distance of about three miles, the party proceeded by conveyance, and were met by Mr. Higson, Mr. Whitworth, and others. The colliery is one of the finest in Yorkshire, and in extent is scarcely exceeded by any in the kingdom. The shaft is 20 ft. clear in diameter inside, and the ventilation is by means of a Schieles's fan; the latter, although only 12 ft. in diameter, gives no less than 200,000 cubic feet of air per minute. Here luncheon was provided in one of the large rooms, when brief addresses were given by Mr. Brogden, the Chairman of the South Wales Institute, Mr. Higson, and others. The party then returned to Barnsley, and in the evening proceeded to Manchester for the home journey, so that the members on Saturday evening all arrived safe and well at their respective destinations, and were ready for business on Monday morning. So terminated an excursion that will long be remembered with pleasure by the members of the South Wales Institute of Engineers.

BRISTOL MINING SCHOOL.

Mr. WILLIAM MORGANS, of Elm, Somerset, a former lecturer on engineering at the Bristol Mining School, entertained a party of students connected with the latter Institution, on Tuesday, and guided them over the North Somersetshire coal field, visiting the most important works. The party arrived in Frome from Bristol at 10·40, and drove to Vobster pits, where they were introduced to Mr. C. A. Harrison, the manager, who explained the position of the coal measures in this part of the coal field to the students, and illustrated his observations by plans and sections. He succeeded in making very clear the fact that at the elevation of the Mendip hills the coal strata at the northern end of the field were bent upon themselves, thus producing the remarkable occurrence of the same seams repeated in the inverse order. In a short address to the students he pointed out the advantages of a scientific education to the miner, and urged the necessity of untiring exertion to master the many complicated theoretical problems, combined with close observation on all possible occasions, of practical works. He laid stress upon the necessity of a thorough knowledge of the principles of ventilation.

The students next visited the clebrated masses of mountain limestone which lie above the coal measures, and which render possible the sinking of a pit in carboniferous limestone and working coal underneath.

The Newbury and Mackintosh pits, under the management of Mr. John Batey, were next visited, and afforded many objects of great interest to the young men. Admirably executed sections of the coal field were first shown them by Mr. Batey, after which the particulars of the winding, pumping, ventilating, and coal-washing arrangements, were ably described and noted. The pumping-engine which has been recently erected was manufactured at the Hayle Foundry, and bears the excellent proportions and admirable finish so characteristic of all work executed by the firm. The Guibal fan, which is in course of erection and near completion, was well examined, and proved a very instructive example of modern ventilative arrangements. Blake's stone-breaker, and Carr's disintegrator—objects of great interest to mining students—were seen in action. The party, accompanied by Mr. Batey, then proceeded to Edford Colliery, and were refreshed by a luncheon very kindly provided by Mr. Geoffrey Morgans. The Darlington and Burleigh rock-drills, and the air-compressors employed so successfully in driving at this colliery, were described by Mr. Morgans, who also showed the Mowbray fuses, and the apparatus by which the electric charge required to explode them is accumulated.

Mr. McMurtrie, mineral agent of the Countess of Waldegrave, having responded to the request of the managers of the School to receive the students and give them the benefit of his very extensive experience in working the thin coal seams at Radstock, consented to meet them, but in consequence of the hard day's work they had had to perform they were prevented from keeping the appointment as regards time. With great kindness he re-appointed a time at which he would meet them. By the assistance of maps and sections he ably demonstrated the relative position of the strata in the Bristol coal field, after which he explained the overlap fault by which the seams of coal are dislocated and brought underneath themselves contrary to the general rule, and pointed out the geological evidence supporting a theory he advanced to account for its occurrence. Diagrams, illustrating the masses of mountain limestone overlying the coal measures in this district, were shown, and the position of these masses explained as projected boulders during the sudden elevation of the Mendip Hills. Plans of the workings which are upon the long wall system, so favourable to the economical removal of thin seams, were placed before the students; the position of the roads, the arrangement of the working faces, the methods of economising timber, and the cost of exploitation were described in great detail.

The splendid collection of coal fossils belonging to Mr. McMurtrie were looked at with great interest by the students, after which they returned to Bristol, arriving safely at 8·40, having passed one of the most instructive days they have spent this session in out-door work.

MACHINE PUDDLING INSPECTED BY STAFFORDSHIRE FORGE MASTERS.

The Mill and Forge Managers' Association have just visited Woolwich Arsenal to inspect, amongst other things, the working there of the Crampton Revolving Machine Puddling Furnace. The visitors found that one Crampton furnace had been there about 2½ years, but that it had been in only occasional operation, more to illustrate its capabilities than to produce iron for use in the Arsenal, though when, in the experimental working of the furnace, blooms are produced that the authorities can use they take them. Our readers will remember that the Crampton furnace was originally built with the expectation that it might be heated by gas admitted from the back of the furnace, but no brick lining could be found that would resist the fierce heat of the flames when they had passed over the bridge and impinged upon the portion of the lining at the base of the stack. Coal dust was then blown into the furnace from the front. The resultant flame occasioned the melting of the pig with which the furnace was charged, the minute ashy residuum which followed passing, it was conceived, into the stack, and not incorporating itself with the molten metal. In the injecting of the powdered coal a difficulty by-and-bye arose through the absorption by the fuel of occasional damp atmosphere. Powdered coal became caked coal, and in this shape found its way into the furnace, not to be instantly consumed. This Mr. Crampton has now overcome by using, not a cold, but a hot blast. Such a blast is now found to effectually prevent the caking of the powdered fuel through the cause we have mentioned, and, as may be imagined, the melting of the charge is, by the hot air, facilitated in point of time.

At this stage the invention had been brought when the visitors saw it; saw it, moreover, with all the assistance of the full and free explanations of Mr. Crampton himself and his son. Mr. Crampton was working in his furnace a mixture of Indian pig-iron and broken shot and shell. The pig-iron contained 6·8 of silica, and was not altogether devoid of sulphur. The charges were 4 cwts. each, and with each such charge there had gone in, perhaps, 10 cwts. of the best tap cinder. The furnace had been charged before the party arrived, the iron being in reality ready to come out. The whole charge came out in one bloom, which was manipulated under a neighbouring steam hammer. It was not what an ironmaker would term very "supple" or moist: on the contrary, it was rather horny, and displayed some flames issuing from certain of the pores. The flames were of that hue which showed a little sulphur, together with carbonic oxide. Judging from these evidences, some of the Staffordshire ironmakers concluded that the tendency of the iron in after working would be to red-shortness. Mr. Crampton, however, assured them that the iron was good to work, either hot or cold. The Arsenal authorities find it transpired that they cannot use machine furnace iron in gun-making. For that purpose, it was explained, it is too soft. But it is only fair to

state that the Acting Superintendent of the Forge Department at the Arsenal, in replying to the enquiries of the visitors as to why the furnace was not made more used, explained that one furnace was not profitable to work, whereas a plant of half-a dozen would have a different issue. Mr. Crampton told the party that his furnace would produce good iron from almost any product.

Upon the Crampton process the Staffordshire ironmasters made no pronouncement, inasmuch as they have at present no opportunity of declaring upon it commercially. A debtor and creditor balance sheet they, however, did not look for when they saw the limited extent to which the furnace was being used at Woolwich. Mr. Crampton pointed out as a great argument in favour of his furnace that the specimen at Woolwich had not cost one penny in repair during the whole 2½ years that it had been in operation, and he roughly estimated its output during that period at some 2000 tons. It is well known that the tender place of a rotary furnace is the region of the rings, and that that is so by reason of the heat and friction. Mr. Crampton reduces the wear and tear at this point by keeping the rings of his furnace cool by the aid of water which revolves with the furnace in a chamber made for the purpose. So cool does he in this way keep his rings, that shortly after the furnace had been emptied the inventor, to show how low was its temperature, presumed to touch with his ungloved hand that ring which is attached to the mouth of the furnace itself. Mr. Crampton furthermore asserts that his furnace can be kept on without intermission day and night by ordinary workmen.

Practical men of the party who have not only the management of ironworks, but have likewise to declare dividends for proprietors, somewhat doubted whether, if they should adopt the Crampton furnace, it would turn out to be an economical step. The heavy cost involved in the use of 10 cwts. of best tap to every charge is, they assert, one of the features which would make them cautious in erecting such machinery. They conceded that 10 cwts. of tap would be sufficient for a charge even of 10 cwts. of iron, which the Crampton is capable of working in one heat; and it is a fact that the Crampton succeeds in turning out a greater weight of iron than it puts in. Still, assuming that with 10 cwts. charges, 10 cwts. of tap-cinder would not be so costly in proportion to the pig iron used, there yet remained some fear that it would be hardly prudent to leave such apparatus in the hands of the men who are at present alone available to work it. The furnace is assumed to be capable of doing six heats of 10 cwts. per turn, but if that number of heats has been at any time worked, whether of 4 cwts. or 10 cwts. charges, it is certainly not usual for it to have done six—four, and three, and sometimes two have been more frequently the number of heats in a turn. Some doubt was expressed as to whether or not it would be possible to successfully work the furnace with other than best coal. The coal which is used under ordinary circumstances in the forges of South Staffordshire and South Wales, for instance, would, it was declared, be altogether unfit to use pulverised as Mr. Crampton's furnace requires.

The visitors expressed their sense of the full and complete inspection of the furnace and its working with which they were favoured, and Mr. Crampton said how happy he had been to show his invention to visitors who were "the highest practical authorities in the kingdom upon finished ironmaking."

STAFFORDSHIRE MILL AND FORGE MANAGERS, AND GOVERNMENT GUN MAKING.

Elsewhere we have described an inspection by the Mill and Forge Managers Association of South Staffordshire of the working at the Royal Arsenal, at Woolwich, of the Crampton revolving puddling furnace. By a preliminary visit Mr. John Lester, the secretary, had, with the kind concurrence of the authorities, made the requisite arrangements for a thorough inspection of the Arsenal; and, with great consideration, the authorities had made the visit to fit in with gun-making work, to be seen upon so extensive a scale only seldom.

The furnace now mostly used at the Royal Arsenal, at Woolwich, is Price's Patent Retort Furnace. It is constructed mainly of fire-bricks; and, though unsightly, and occupying much room, yet it furnishes great heat at comparatively little consumption of fuel. There is at the Arsenal a forge consisting of four puddling and two heating furnaces, all constructed upon this principle. The blast to all is worked by a powerful fan, and the fuel is small coal fed from the back of the furnace. At this forge the authorities are puddling nearly all the iron, and subsequently heating the blooms of which they make their magnificent guns. A 12-cwt. pile was brought splendidly hot from one of these heating furnaces and rolled down to a bar of about 14 ft. long, with dimensions of about 7½ by 7 by 6, the barb being so shaped as to permit of its coiling when welded to others, making one whole bar measuring 170 ft., and weighing 12½ tons, it has again passed through a furnace 190 ft. in length. Such a bar the party saw coiled around a revolving mandrel with comparative ease. The mandrel affixed at the mouth of a furnace of the above great length was worked by hydraulic power, and in revolving drew the bar out of the furnace with an easy determination, which for force was only excelled by a subsequent operation. The first grip of the bar was obtained by hooking its nose, through which, before it was put in the furnace, a hole had been punched, on to a stud affixed to the mandrel. With only little apparent effort bars of much larger dimensions are coiled by the same process—bars weighing 56 tons. And one such bar the party saw manipulated into a trunnion coil. The coil was brought out of the furnace where it had been heating for 50 hours at a cost in coal of some 25 tons. Aided by two cranes, each capable of lifting 100 tons, and a pair of tongs weighing about 6 tons, a corps of fine-built workmen, who, however, at such work seemed dwarfed to Lilliputians, swung the coil on to a 750 ton hammer-block that had in turn for its foundation 100 50-ft. piles 14 in. square. The hammer-head weighs 40 tons, and with steam behind it it has a force equal to 2000 foot-tons (foot tons meaning tons possessing a force given to them by a 1-ft. fall). The hammer stood there at an elevation from the ground of some 56 ft. Most delicately, like Poe's raven, it came tap, tap, tapping, for these blows, mighty though they were, seemed but as taps upon this huge coil so firmly erect did it stand beneath the oft-descending hammer. The coil had not only to be compacted into a tube with compatibly solid sides, but it had to be kept perfectly true in its centre; from the opposite side of the hammer there was, therefore, at this juncture revived by the aid of the cranes and another pair of gigantic tongs a steel mandrel, which was soon forced into the centre of the coil by the hammer. The 56 ton coil, now heavier by many cwts., was next rolled over upon its side on the hammer-block to have the rolls beaten around their external circumference, and the interstices between the rolls wholly closed. The trunnion coil it need hardly be explained is the heaviest portion of the 81 ton gun. Upon the coil which surrounds the inner steel tube this trunnion coil, after it has been turned to an exactness which experience has demonstrated will accomplish the purpose, is heated to a black heat over a wood fire, and the shrinking of the monster coil in becoming cool clips the rest of the gun with a firmness which makes the whole virtually one solid mass.

The Woolwich forge, in which this work was done, is the finest in the world. It was made by Messrs. Nasmyth, Wilson, and Co., and so firmly have the foundations been laid that the vibration of the hammer at work at its mightiest is but slightly felt.

Hydraulic friction gear for reversing the rolls, though it has not got into general use in this country, has been applied, amongst other places, to the mill at Woolwich, where the 12-cwt. pile was rolled into a 14-ft. bar, to which reference has been made in the foregoing. The gear did not work very smoothly during the operation of the rolling. After the pile had been rolled some Members of Parliament and others seemed interested in the working of the friction gear. Colonel Younghusband was assisting to explain it, and was himself handling certain of the machinery. In a moment a portion of the gear snapped, there was a startling crash, and Colonel Younghusband was hurled over upon a heap of iron. It was certainly thought that he, if not others also, had been killed. Happily, no one was seriously hurt. When the colonel got up it was clear he had sustained a severe shock, though he said: "I am not hurt; I have only been struck a little in the side." Of this, like a brave man, he made light, and he remained at his post till the party left. Staffordshire ironmakers do not entertain very high opinion of this friction gear. Though this mishap is the first which has happened with the friction gear at Woolwich, it did not decrease the confidence which the bulk of the ironworks' managers before felt in the old method of reversing the rolls by means of the well-known crab.

Crossing the Thames the Association dined at the North Woolwich Gardens, Messrs. Crampton and Mr. Price, the practical manager of the gun factory, sitting down with them. On the proposition of Mr. W. Farnworth, the President of the Association, the company drank with hearty enthusiasm to the health of Colonel Younghusband, and it was announced that the thanks of the Association would be conveyed to the gallant colonel by the secretary of the Association in official form. The Mill and Forge Managers' Association, who had amongst them Mr. Smith-Casson, manager for Earl Dudley, of the Round Oak Works, together with managers from Lancashire also, have cause, which they expressed, to be sensible of the desire to afford them information shown by everyone at the Arsenal, from Colonel Younghusband and Mr. Crampton down to the smallest boy working a machine at which tiny percussion caps are shaped.

MOTOR ENGINES.—According to the invention of Mr. WILHELM WEYHE, of Bremen, a cylindrical piston is caused by fluid pressure to revolve in an annular passage formed by bolting face to face two discs having each a semicircular recess round their peripheries, and which constitute the casing of the engine. Between the central parts of the two discs is placed another disc fixed on a shaft passing through the casing, to which disc is fixed the before-mentioned piston, the rotation of which consequently causes the disc and shaft to revolve. At one point of the annular passage a slide is made to project across the same so as to act as a division, and on one side of this slide is the inlet port for fluid pressure, while an escape port is provided on the other side. The piston has a break or incline which, as it passes round in the passage pushes up the slide so as to allow the piston to pass through, the slide closing again by the action of a spring. Arrangements of pipes and heating and cooling apparatus are described in conjunction with a duplicate engine of the construction described to adapt it as a caloric engine, the one engine acting as a pump. A modification of the engine is also described for adapting it to be worked by explosive mixtures of gas and air. According to another modification two rotating discs having notches in their circumference are arranged at opposite sides of the casing, the discs being made alternately to cut off communication between the two halves of the annular passage, and to allow the piston to pass by them. The passages for the inlet of fluid pressure and for the exhaust are formed in the engine-shaft, from which they extend radially to each side of the piston.

BUFFER, DRAW-BAR, AND COUPLING APPARATUS.—The improvements invented by Mr. GEORGE TURTON, of Sheffield, relate to buffer, draw-bar, and coupling apparatus, chiefly designed for railway carriages and wagons, but parts of which are applicable to lifts or cages for mines, for cranes, and other lifting machinery, and for other like purposes. The said invention consists, first, in various improvements in the construction and arrangement of buffers which shall be more easily and readily manufactured and attached to the carriages or wagons, and will be more durable and more easy to repair than the buffers heretofore used. Another part of the invention relates to draw bars and their appurtenances, and consists partly in constructing the cradles to which the draw-bars are connected with stops or guards to prevent the crushing of the springs. Another part of the invention relates to combined buffer, draw-bar, and coupling apparatus, whereby the coupling of railway carriages or wagons is automatically effected by the meeting of the carriages or wagons, which apparatus is provided with outside adjusting mechanism, whereby the necessity for going between the carriages or wagons in coupling or uncoupling is entirely obviated.

MINING AND STOCK EXCHANGE NEWS OF THE WEEK.

Messrs. F. W. MANSELL and Co. (Sworn Stock and Share Brokers), Pinner's Hall, Old Broad-street, write to us as follows:—

I.X.L. (Gold and Silver)—THE COMSTOCK MINES.—In the absence of any important information from the mines, we may take advantage of the opportunity to work off arrears of correspondence. Curious enough are some of the enquiries, involving, too, subjects to which we are scarcely prepared to address ourselves, while others seem altogether beside any question of interest to shareholders in a gold and silver mine. Generalisations are at all times unsatisfactorily dealt with; in the present circumstances, however, we have no alternative, so that if our information be less complete than desired, or of a character other than wished, our apology must be the impracticability of replying *seriatim* to the many enquiries made. When was gold and silver first discovered, and in what manner and under what conditions are the precious metals found, apparently embody the more prominent questions. All records point to gold and silver as the earliest metals known. The Scriptures, the most ancient writings we possess, abound with notices of them. Gold was familiarly known before the Flood; in Genesis it is said "The name of the first is Pison, that is it which encompasseth the whole land of Havilah, where there is gold, and the gold of that land is good." We are told the Hebrew word for gold was "zeb," signifying to be clear, to shine. The word gold occurs frequently in the writings of Moses, and that metal must have been in common use among the Egyptians when Moses led the children of Israel out of Egypt, generally believed to have been 1648 years before the commencement of the Christian era, Silver also was not only familiarly known to the Egyptians in the time of Moses, but it was coined into money before Pharaoh set Joseph over the land of Egypt. Frequent mention is made of the gold of Ophir—a region from which the ships of Solomon (fitted out in the harbour of Edom) brought gold. The voyage occupied three years. Where Ophir was situated has been much debated. Josephus, the Jewish historian, places it in the peninsula of Malacca. The abundance of the precious metals among Phœnicians, the great trading people in the early ages, must have been very great. When the mines of Iberia, or Spain, were first discovered by them, not having room to store away all the silver in their vessels, they are said to have made their anchors of it. The great wealth of these mines is clear from the fact that even in the time of the Romans 40,000 men were continually employed upon them. So immense in ancient times was the quantity of gold and silver that it is difficult to credit what is related by some historians. The total value of the precious metals contained in the Temple of Belus, at Babylon, has been computed to exceed 120,000,000,000*l.* sterling of our own money. The gold and silver taken by Cyrus in the conquest of Asia was 126,224,000*l.* We are also told that the gold collected by the Kings of Persia was enormous, and that Alexander, having conquered that empire, drew from it annually to the amount of 67,500,000*l.*—probably this was not all gold, though, no doubt, the greater proportion consisted of this metal. Gold and silver would thus appear to have been plentiful in ancient times, and were, probably, accumulated in greater quantities in certain localities than at present. Gold is now found in nearly all parts of the world; with the exception of iron, there is, perhaps, no other metal so widely diffused throughout Nature. When found in rocks it is generally mixed in a greater or less degree with other metals, and usually with silver, copper, and iron. Previously to the great discovery of gold in California, in 1847, Europe was to a great extent supplied with gold from Mexico, Brazil, New Granada, Chili, and Peru; a large quantity was also obtained from the Russian territories in Asia and the islands of the India Archipelago. Africa furnished a less, but still considerable quantity; our old coin—the guinea (which was first introduced in the reign of Charles II.)—was thus called because it was made from gold brought from that part of the African coast. The forms in which silver is found in Nature are numerous; native silver occurs occasionally in all the places that yield silver ore. It appears in various forms, but usually in threads or tree-like crystals twining around small rocky fragments. Some beautiful specimens are to be seen in the British Museum. But the quantity of silver found in Nature in the metallic state is comparatively small. Its principal ores are the different sulphurets—sulphuret of silver (containing when pure 87 parts of silver and 13 sulphur), brittle silver ore (sulphuret of silver and antimony), and red silver ore (called also ruby silver), of which there is a dark and a light kind, the former being similar to brittle silver ore, but a little less rich in silver, and the latter only differing in containing arsenic instead of antimony; there is also horn silver (chloride of silver). Much of the silver of commerce is obtained from mixed ore—that is, the ores of other metals are frequently found to contain it. These are for the most part sulphurets of tin, arsenic, copper, iron, and lead. The annual consumption of silver in the United Kingdom is estimated at 3,250,000 ozs. There are many indications at the present time to show that the progress of mining is likely to be more rapid for silver than it was ever for gold, and evidence points to much more brilliant results.

EXCHEQUER (Gold and Silver).—The O'Hara champion chloridising furnace, by a misprint last week, was made to appear a costly instead of a most economical appliance for the successful treatment of the Exchequer ore. It was stated that the cost of roasting and chloridising by this process "was $93½ per ton," it should have read thus—the cost of roasting and chloridising by this process was $2 93½ cents per ton, and in a furnace of three times the capacity the cost is decreased 20 per cent. Exchequer shareholders may learn with interest that the following are the items for the treatment of 15 tons of ore:—Two cords of wood, $12; two firemen, $8; 1500 lbs. of salt, $22 50 cents; wear of shoes and power, $1 50 cents: total, $44, equal to $2 93½ cents per ton. Mr. Lewis Chalmers, manager of the Exchequer Mines, in the advices just to hand again states that from personal examination he is satisfied the O'Hara furnace is the best and the most economical one for the satisfactory treatment of the ore. Mr. O'Hara has undertaken to build a 25-ton furnace for $5000, and $5000 royalty, the royalty not to be paid for six months, and only after he has proved it to be all he claims for it. The various operations at themines are progressing in every way satisfactorily; the engine-shaft is now down 370 ft., the 300 ft. level is now all timbered, and the contractors have commenced to drive on their contract. The water coming from the face of the 200 increases, justifying the manager in looking for a great widening of the lode, and hoping a big bonanza. By this time three stopes are furnishing ore for hauling. The latest advices from the district indicate that unusual interest is being exhibited in the mines, reminding the residents of the flush times of 1863-4. A local authority remarks that "the rich developments in the Exchequer Mine are stimulating others to vigorous efforts, and the present year promises to do much in bringing our mineral resources into the notice which their merit warrants, and only capital needs to be judiciously expended to develope several Alpine Comstocks." It may be added that, according to private advices, the Exchequer is rapidly developing into a mine equal to the anticipations of the most sanguine, and that substantial returns will be made earlier than anticipated.

WEST PATELEY BRIDGE (Lead).—From the days of Hesiod, who wrote seven of his books on sheets of lead, down to the present time this extremely useful metal has been applied to purposes ever varying and increasing, and is now more generally and universally employed than at any former period. Although lead never occurs in a native state (apart from the ore in which it is found), still the ore of lead is extremely abundant, and admits of reduction by a very rude application of fire. It is found in combination with other substances, especially with sulphur, and was anciently known as *galena*, from the Greek, signifying "to shine." It has a lustre resembling that of the pure metal, but is instantly distinguished from it by readily breaking when slightly struck by a hammer. The ores of lead are white, green, or blue, especially the latter. The ore is generally found in veins of rocks, and has to be extracted in masses, which are often mixed with earthy matter. These masses are broken into small pieces and then crushed fine, and the whole washed in a stream of water, which carries away a great part of the earthy matter, owing to its being lighter. The remaining ore is collected and dried, then subjected to the operation of smelting; in this way the lead sinks to the bottom of a furnace, whence it is run out into oblong moulds, and in these it cools into solid masses called "pigs," sufficiently pure for all ordinary purposes. In our own country the ore of lead was so abundant in ancient times that it was forbidden to extract more than a certain quantity annually. The ore was found actually upon, or only just beneath, the surface. Sir Roderic J. Murchison says that lead cast in Roman moulds (pigs, in fact, as they are now called) has been found in Derbyshire, Yorkshire, and some other counties. The shape of the ancient ingots, or "pigs," is nearly the same as at present, and the inscriptions were made in raised letters on the top; this is worthy of observation, because, if their letters were sunk in the mould, and thus appear raised on the top, it seems singular that this did not suggest the idea of printing. Lead is one of the softest, most ponderous, and most widely diffused, and (generally speaking) best known of the perfect metals. It seems to be often supposed that England, so rich in regard to iron, copper, and tin, is comparatively poor in lead, or at least that the lead mines are of secondary importance. This is an error, arising from the fact that the production of lead, instead of being concentrated in a few districts, like that of copper and tin, is spread over over a greater number of mines. Some—like those of Alston Moor, in Cumberland; Snailbeach, in Shropshire; Warlock, in Dumfriesshire; Laxey, in the Isle of Man; and others—are indeed well known, but most are comparatively unknown. Their number, however, is considerable, and they raise the production of this metal to an amount which places England at the head of supply in this respect. Spain is at any rate the only country that can come into competition with her. Among the multifarious applications of lead is its employment in making the fine kinds of glass, enabling them to bear the sudden changes of heat and cold better; also to give glass a proper degree of weight, and render it more easy to be cut without breakage. Lead gives to glass a greater power of refracting the rays of light, and confers upon it a higher polish. But the most important consideration for shareholders in lead mines is the remunerative price at all times commanded for the metal their capital is the means of producing; not only is this the case, but the ever improving mechanical appliances, and the advancement of metallurgical science, are almost daily rendering lead more commercially valuable and, which is of equal importance, it is being now more economically brought into a merchantable condition than at any former time.

STOCK EXCHANGE GENERAL MARKETS.—The changes in the markets for public securities have been as slight as is well possible, and were it not for the ingenious *canards* in lack of employment the markets would be featureless. The general trade of the country has been dull in former years, and there have been periods of depression as prostrated as the present, but recent experience will not readily afford a parallel to the extreme lassitude now existing. The capital which ought to feed enterprise lies idle, with no symptom of the likelihood of its soon being turned to account. The fact that while this state of things is perpetuated from week to week and month to month, the ordinary hand-to-mouth trade of the country goes on as before proves that there are large accumulations of capital in England. Although, therefore, the long period of depression is a time of trial, the fact that we are able to endure it without any startling disasters shows there is a reserve of strength in the country that will not easily be exhausted.

RAILWAYS.—Just before the settlement, which commenced on Tuesday, this department became suddenly animated, contrasting strongly with the previous inanimation. This spasmodic accession of strength was ascribed to various causes, the most prominent being that it was due to purchases by operators for the fall closing their accounts in anticipation of a scarcity of stock. Another rumour was that an attempt was in progress to start a fresh series of operations for the rise. So far, it would seem, the public have not been tempted to come in and make *bona fide* purchases, notwithstanding the present low level of prices.

FOREIGN BONDS.—Some rather speculative operations have taken place in Egyptians; among other rumours that apparently received most attention was one which stated that the last scheme of Egyptian unification is likely to be abandoned, and that Fiver per Cent. Bonds will, probably, be substituted for the new Seven per Cent. Securities into which the obligations of the Khedive were to be converted. It does not, however, greatly matter whether the consolidated debt is represented by Five or Seven per Cents.; for the price at which they can be put on the market will only be so much the less if the former figure be adopted. It would seem that the Khedive is still groping his way, uncertain what course to adopt.

*** Mr. F. W. MANSELL (Messrs. F. W. Mansell and Co.) is about to visit America to personally examine, accompanied by professional authorities, a group of gold and silver mines, just secured by some influential English noblemen and gentlemen. The property, in the same geological formation and mineral belt as the famous Comstock Mines, is said to be of immense richness, possessing every feature and condition essential to ensure a great success. It is also proposed to visit each mine upon the Pacific Coast that has any interest to home investors, and the information thus obtained will appear in the columns of the *Mining Journal*, thanks to the courtesy of its esteemed Editor, Mr. Richard Middleton, who has favourably accepted our correspondence for a period approaching 20 years. All communications concerning American Mines should be addressed to us not later than July 10.

PRICES OF MATERIALS

As charged at the GREAT WHEAL VOR UNITED MINES during the months of—

Description.		January.		February.		March.	
Coals—Best	per ton	23s. 4d.		23s. 4d.		21s. 8d.	
,, Common	,,	14 6		14 6		14 6	
Timber—Norway	per 50 ft.	—		43 2		43 2	
,, —Pine	per foot	1 9		—		1 9	
,, —Baltic	,,	—		1 4		—	
,, —Battens	,,	2½d. & 2¾d.		2¼d. & 2½d.		0 2¼	
Iron—Best	per cwt	—		12 6		—	
Nails—4 in. and 5 in.	,,	—		24 0		—	
Rope	,,	42 0		—		—	
Hemp	per lb.	0 5		—		—	
Tallow	per cwt	—		54 0		—	
Wire rope	,,	40 0		—		—	
White yarn	per lb.	0 5¼		—		—	
Leather—Butts	,,	2 4		2 4		—	
Candles	per doz.	6 0		—		5 9	
Hilts—Shovel	,,	5s. 6d. & 12s.		—		—	
Gutta-percha fuse	per coil	1 0		1 0		—	
Cartridges	per lb.	—		2 0		2 0	

CHINA-CLAY TRADE IN CORNWALL.—The china-clay trade in the Breage district is very brisk, and considerable attention is directed to its manufacture and the opening up of new works. Tregoning Hill, one of the oldest works in the county, is doing a large and increasing business in china-clay, and the bricks and tiles manufactured by the same company are in great demand on account of their superior quality. Wheal Grey, near the above, commenced working about two years ago in a most spirited manner; the erections and all other necessary work were quickly completed, and some hundreds of tons of clay have already been sold. This works is laid out in a most exemplary manner, is quite a model, and well deserves to be copied by those having a desire to do in a complete manner at half the usual outlay for works of this description. The company formed for working the Tresowes China-clay Works, adjoining the foregoing, is receiving a large and influential amount of support locally and elsewhere, which in a great measure corroborates the statements as to the *bona fide* character of the undertaking set forth by the company in the prospectus. The works are most advantageously situated, of great extent, and contain a vast quantity of potting and bleaching clay, which can be worked at a great profit; one very peculiar and important feature of this property is that the overburden on the clay is disseminated with tin that can be profitably worked, thus reducing the usual heavy expenses of uncovering the clay. Great interest is manifested in this undertaking, and the best wishes of the district are due to Mr. W. Argall, the purser, who is ever active in opening up and developing the resources of the district. Another company, it is stated, are about to work a piece of ground on the western side of the Tregoning Hill, which promises to be quite as successful as the other works in the neighbourhood. The clay is of a very good quality, and adapted for potting and bleaching purposes. Other works are in contemplation, which for the present it is premature to speak of. There can be no doubt that if such progression continues as is now taking place this must form one of the most extensive china-clay producing districts in Cornwall.

THE

Cleveland Extension Mineral Railway COMPANY.

INCORPORATED BY THE CLEVELAND EXTENSION MINERAL RAILWAY ACT, 1873 (36 AND 37 VICTORIA, CAP. 135).

By Section 50 of the above Act powers have been granted to this Company and to the NORTH EASTERN RAILWAY COMPANY to enter into agreements for the Management, Use, Working, and Maintenance of the Railway, for the Supply of Rolling or Working Stock, and of Officers and Servants for the conduct of traffic on the Railway; and for interchange of traffic between the companies.

DIRECTORS.

JOSEPH DODDS, Esq., M.P., Stockton, Vice-Chairman of the Darlington Iron Company (Limited)—CHAIRMAN.
JOHN ROBINSON, Esq., Merchant, Stockton.
PETER GRAHAM, Esq., Chairman of the Liverton Ironstone Company (Limited), Cleveland and London.
SAMPSON LLOYD FOSTER, Esq., Callipers Hall, Chipperfield.
} Appointed by Act of Parliament.

BANKERS.

The NATIONAL PROVINCIAL BANK OF ENGLAND, 112, Bishopsgate-street Within, E.C., and its Branches.

SOLICITORS.

Messrs. SHARP and ULLITHORNE, 1, Field-court, Grays Inn, W.C., London.
CHARLES ERNEST CADLE, Esq., Solicitor, Stockton-on-Tees.

ENGINEERS.

EDWARD WILSON, Esq., C.E., Dean's-yard, Westminster, London, Consulting Engineer.
R. FRANCIS REED, Esq., Engineer and Surveyor, Stockton.

SECRETARY—F. PATTISON, Esq.

Offices—4, BROAD SANCTUARY, WESTMINSTER, S.W., LONDON.

ISSUE OF £154,000.

Part of the total Share Capital of the Company, which is £170,000, the balance of £16,000 not being required for the construction of the works at presented contracted for.

THIS CAPITAL WILL BE ISSUED IN 15,400 SHARES OF £10 EACH.

PROSPECTUS.

APPLICATIONS ARE INVITED FOR 15,400 SHARES OF £10 EACH in the CLEVELAND EXTENSION MINERAL RAILWAY COMPANY, payable—£1 deposit on application; £2 on allotment.

Further calls according to the requirements of the company, in accordance with the following Section of the Act:—

[§ 8.—One-fifth of the amount of a share shall be the greatest amount of a call, and two months at least shall be the interval between successive calls, and four-fifths of the amount of a share shall be the utmost aggregate amount of the calls made in any one year upon any share.]

The proposed line of railway will run from a point in connection with the Kilton-thorpe branch of the North-Eastern Railway Company, in the parish of Brotton, in the North Riding of the county of York, and terminate at Glaisdale, in the parish of Lythe, in the said county, by a junction with the North Yorkshire and Cleveland Branch of the North-Eastern Railway. The length of the line is about 10¼ miles. The existence of the well-known Cleveland ironstone has been proved through a great part of the district through which the line runs. In the vicinity of the line several shafts have already been sunk to the ironstone, and others are contemplated by lessees, who are only waiting for the construction of this line to enable them to develope their royalties.

Cleveland is now one of the most important iron-producing districts in the world. The rapid and continuous increase in the production of iron in the district has been very great, and the large dividends paid by the North-Eastern Railway Company are in a great measure due to the traffic in minerals. The annexed extract from the *Times* of Jan. 10, 1876, shows the increase in the Cleveland iron trade during the year 1875.

The two branches of the North-Eastern Railway, between which the Cleveland Extension Railway will form a connection—the Cleveland Branch and the North Yorkshire and Cleveland Branch, were originally constructed by independent companies, and afterwards acquired by the North-Eastern Railway Company. Both branches are now contributing largely to the net earnings of the North-Eastern Railway Company.

The present line will form a link between these railways, and the company's stock ought to become, at least, as valuable as that of the North-Eastern Company, whether it be eventually absorbed by that company or maintains its independent existence.

A daily traffic of 3000 tons per mile, calculating the working expenses at 50 per cent of the gross earnings, would yield a dividend of 10 per cent. per annum, after providing for the interest on the amount which the company is authorised to borrow on debentures. The shafts now opened, and those about to be sunk, are expected to create a large traffic, and there is no doubt that the progressive development of the important district through which the line passes must result in a very large and continuous increase of traffic.

The importance of the Cleveland Extension Railway in other respects was referred to by the Chairman on the occasion of the cutting of the first sod at Moorsholme, when he said:—"Anyone who has examined the map must feel that the place where they were gathered would ultimately be part of the through route between Stockton and Middlesborough—the Durham coal districts on the one hand, and Whitby and district on the other. From the gradients they would see that this would be the case, and he was quite convinced that this new line through Moorsholme would be used as a through line to Whitby, long before the coast line would be completed."

The localities and the saving of distances are clearly shown on the map accompanying the prospectus.

If no allotment be made the deposit will be returned in full. Should the shares allotted to any applicant be less than the number applied for, the surplus paid on application will be credited in reduction of the amount payable on allotment.

Failure to pay any instalment when due will render all previous payments liable to forfeiture.

A copy of the company's Act of Parliament can be seen at the offices of the solicitors of the company.

Applications, accompanied by the payment of £1 for each share applied for, must be forwarded on an annexed form, to the National Provincial Bank of England or its branches. Prospectuses and forms of application may be obtained at the offices of the company, and also from the bankers and solicitors of the company.

THE CLEVELAND EXTENSION MINERAL RAILWAY COMPANY.

(From the *Times*, Nov. 19, 1874.)

A large party connected with the Cleveland iron trade were present at Moorsholm, in Cleveland, on Saturday afternoon, for the purpose of taking part in the ceremony of turning the first sod of the Cleveland Extension Mineral Railway. The Bill for this line was obtained in 1873, after an unsuccessful application had been made to Parliament in the previous Session; and the undertaking is one brought out by an independent company, of which Mr. Joseph Dodds, M.P., is the Chairman. The line will be between 10 and 11 miles in length, commencing by a junction with the North Eastern Railway, about 2½ miles south-east of Saltburn-by-the Sea; then it proceeds through the richest part of the hitherto undeveloped ironstone district, passing over a mile of the estate of Mr. John Thomas Wharton, of Skelton Castle, whose income 20 years ago was between 400*l.* and 500*l.* per annum, but, by the discovery of ironstone, is now estimated at above 50,000*l.* per annum. Next it goes through Captain Linskill's Little Moorsholm estate, where a ravine 120 ft deep is crossed by a viaduct on to Great Moorsholm to Gerrick, where the ironstone is proved to average 20,000 tons per acre: over the Liverton and Danby Low Moor estates of Lord Downe to Easington High Moor, owned by Mr. C. M. Palmer, M.P., skirting the estates of Mr. E. H. Turton and the Marquis of Normanby; through the valley of Greenhouses Beck, where a junction will be made with the North Yorkshire and Cleveland Railway, about half a mile from Glassedale and ten miles from Whitby. Danby Moor is one of the highest points in Cleveland, and the line will have an inclination in each direction, so that the loads of ironstone will be carried with *minimum* engine power. The ceremony of turning the first sod was performed on the estate of Mr. D. T. Petch, at Moorsholm. Mr. David Murray, of Great George-street, Westminster, presented Mr. Dodds with a silver bladed spade on behalf of the contractors, and asked that the first sod might be turned. Mr. Dodds cut the sod, and, having pulled off his coat and filled a large barrow with soil, which he wheeled away amid the plaudits of a large gathering, the Rev. Dr. Gardner, Rector of Skelton, delivered a brief address, in which he quoted from Ord's "History of Cleveland," showing that so late as 20 years ago Moorsholm was described as a collection of mud huts with thatched roofs, which reminded him of Goldsmith's "Deserted Village." Times were changed since then, and by the aid of railway they hoped to find a readier way of communicating with the outer world, and also for bringing the necessaries of life into the district. Mr. Dodds next referred to the circumstances which had led private individuals to make the railway after they were tired of waiting for the North-Eastern Railway Company, which had a monopoly of the district, doing so. The directors had bored, with the aid of Capt. Beaumont's diamond drill, and had the gratification of finding ironstone equal in in thickness to the best developed parts of Cleveland, and such was its profusion that they estimated the quantity at 20,000 tons per acre. Within a mile of each side of the line, and over a distance of three miles, extending from Hag Beck to Gerrick, there was a deposit of no less than 80,000,000 tons of stone available for working, and for which no means of transit could be found until that line was completed, in the course of the next two years.

THE CLEVELAND IRON TRADE IN 1875.

(From the *Times*, Jan. 10, 1876.)

An interesting statement in connection with the pig iron trade of the North of England was sent out on Friday by the secretary of the Ironmasters' Association, which exhibits a remarkable development in that branch of trade. Although the manufactured iron trade was so depressed during last year, thereby causing a large reduction in the local consumption of pig-iron, the official statement shows that more pig metal was smelted in the North of England and more went into consumption during 1875 than in any previous year. In 1868 the make of pig iron in the North of England and Cleveland district amounted to 1,233,418 tons. In the next three years the additional furnaces erected added about 200,000 tons each year. In 1874 a total slightly exceeding 2,000,000 tons was produced. The figures for 1875, brought up to Dec. 31, shows an increase to 2,047,763 tons—above one third of the whole pig-iron manufacture of the United Kingdom. The stocks in makers' hands at the end of the year were unusually low, being in the whole 74,258—less than a fortnight's make. The disposal of so large a quantity of crude iron is largely due to the increasing demand which is every year appearing for shipment to Belgium, Germany, and different parts of the Continent, and also to Scotland. The different iron centres—Staffordshire, Lancashire, &c.—during the last half of 1875 absorbed an unusual quantity of North of England pig-iron. The comparatively low prices of the latter enabled it to compete successfully with Staffordshire and other brands in their own markets, even after the cost of freightage was added. To show the extent of trade done in foreign and coastwise delivery, it may be mentioned that for some time past an average of about 60,000 tons per month of Cleveland iron has been shipped in the Tees alone. There are now 159 furnaces in the North of England, out of which 116 are in blast. There are also six in course of erection. The rapid growth of the North of England iron, and the large demand during an exceptional year, such as that which has just passed, afford confirmation of the oft-repeated statement that pig-iron can be produced in Cleveland cheaper than in any part of the world.

LITHOFRACTEUR AND DYNAMITE.—The new explosive—lithofracteur—has, we are informed, been in use for the past month at Carn Brea, Cook's Kitchen, and other mines. Its effects as an explosive, as stated in our issue of last week, are found to be very similar to dynamite, but it has one invaluable superiority in the eyes of the working miners who have used it—it does not give off those sickening and poisonous exhalations of which the men complain in reference to dynamite. Lithofracteur will, therefore, be invaluable for use in badly ventilated ends, &c. The dynamite company, we hear, have taken alarm from these results, and have served the lithofracteur agent in Cornwall—Capt. Stephen Williams, of Camborne—with a notice that lithofracteur is an infringement upon the dynamite patent, and that if he continues to sell it an injunction will be applied for. A bill, we believe, has already been filed against the lithofracteur company, but as the dispute has already been fought out in the American courts, where the lithofracteur company established their right, the opposition in England is hardly likely to succeed. Lithofracteur is a German manufacture. A correspondent writes:—Although the use of dynamite has undoubtedly had very satisfactory results in many mines, and in some cases work that could scarcely have been done at all with gunpowder has been done by dynamite with tolerably good expedition, yet its cost is very great, and many mine agents have decided not to employ it except in troublesome ground. A new explosive has been recently introduced by Mr. Cunnack, of Helston, known as the "smokeless blasting mixture," which is spoken very highly of by those who have used it. It is six times the strength of ordinary gunpowder, and has the merit of causing no noxious or disagreeable fumes after explosion, whilst it is not affected by hot, cold, or damp weather, and may, it is asserted, be used under water quite as well as dynamite. Explosives are now very high in price; so high, in fact, that many mine agents shun them altogether; but probably the prices will come down to a much lower level as soon as the various explosives have fairly come into competition with each other. Of their value to the miner there can be no question, although carelessness in handling them is frequently productive of accidents.

SALE OF PEDN-AN-DREA UNITED MINES.—These important mines were offered for sale on Friday, at Redruth, as a "going concern," by Mr. Berryman, auctioneer, and were purchased by Mr. Seymour, of London, for the sum of 2500*l.*, for, it is supposed, the purpose of re working. The machinery includes a 70 in. cylinder pumping engine, with four boilers, a 33 in. stamping-engine, with three boilers, a 12 in. engine and stone-breaker, and 22-in. winding-engine, with two boilers, and 48 heads of stamps. These mines are in full working order, and have made very large returns of tin. The monthly sales at present are about 20 tons of tin. Rather over 55,000*l.* has been called up here. There was a good attendance of substantial gentlemen, and the representatives of several well-known dealers in mine materials. The first offer was from Mr. George Seymour, of London, for 1000*l.*, after a short time Mr. T. Pryor offered 1100*l.*, another advance from Mr. Seymour made it 1200*l.*, subsequently offering the 2500*l.* reported above. Pedn-an-Drea having for so many years given employment to a large number of persons in and about the town of Redruth it is a matter for congratulation that it is able to be carried on, and with increased spirit by the present proprietors, and we shall, indeed, be glad if attended by profitable results.

NORTH BUSY.—This is one of the best young mines we have. On the 2nd inst. they sold 167 tons of tinstone for 39*l.*, an unusually rich average. They now have on the floors some 300 tons ready for another sampling; also preparing another sampling of copper ore. This discovery is in virgin ground, and west of the old North Busy western boundary. Rumour says the dividend at the coming meeting will be a hands me one. The proprietors will merit their success. They have pluckily kept working on, and on the present improvement, with good management, North Busy promises to become a good and important mine.

WHEAL PENVOR is looking decidedly better, and shares are being picked up quietly. Capt. White has discovered that the lode in the 60 east has only been partially laid open, and it is of double the width as compared with what it was when he took the management. The 70 also is most promising. Capt. Goldsworthy inspected the mine last week, and valued the shaft at 100*l.* per fathom. West Penvor is also an encouraging sett, in 3000 shares.

LIMITED LIABILITY MINES.—There can be no doubt that mines honourably conducted on the "Cost-book System" can be, and indeed are, far better carried on than on the "Limited Liability" principle. Some of those carried on on the limited principle have been carried on on the principle, we should fancy, of unlimited roguery. The rascality perpetrated under the so-called limited principle has been beyond description. Out adventurers have been cajoled into taking shares in concerns perfectly worthless, and known to be so by the promoters, yet every farthing of the adventurers' money is called up and spent, heaven knows how, with nothing to show for it. Some of the most atrocious acts have been committed, and the only wonder is that the perpetrators are not brought under the law, when exposures would take place which would almost paralyse those mine adventurers who know their property and interest is well and carefully looked after.

WEST POLDICE, a correspondent writes, still continues to open out well. The lode in the 4', driving west, is worth at the present low price of tin fully 60*l.* per fathom. In the 42, driving east, there is a pare of men set on tribute at 4s. in 1*l.* This month it is expected they will raise not less than 200*l.* worth of tin. There were at the setting on Saturday two pitches set at 3s. 6d. in 1*l.*, one at 3s., one at 5s., and several at 6s. and 7s. 6d. By the present prospects the next monthly tin sale will exceed the last, which was considered exceedingly good.—*West Briton.*

MINING NOTAEILIA

[EXTRACTS FROM OUR MINING CORRESPONDENCE.]

SILVER HILL.—The late Capt. Conn raised and sold from the back of one lode in this sett, close to the surface, 200 tons of copper gossan, since which nothing has been done. No doubt this will prove a rich mine, and Mr. Bawden is considered fortunate in having selected such a sett.

SOUTH WHEAL CROFTY (Tin and Copper) has unquestionably, according to present prospects, a great future before it. There are 177 tons of copper ore for sale on July 6. The mine is exhibiting signs of improvement daily, and agents of considerable experience say there are no better shares to hold. It is to be hoped that Captain Pascoe, the newly appointed agent, will forward reports of the progress of operations as often as he can conveniently do so for the information of the persevering adventurers and the readers of the Journal.

SILVER HILL.—I hear it is Mr. Bawden's intention to introduce to the mining public setts of virgin ground within a short distance of the Great Cousols and United Mines, in Gwennap. There is no question in the minds of those who know the ground that there are as good bunches of copper ore in Silver Hill Mine as were found in the Gwennap mines, only sink a little deeper.

The Vice-Chancellor Hall has appointed Mr. B. P. Daniels (Good, Daniels, and Co.), provisional official liquidator of the Esparto Fibre Company.

HOLLOWAY'S PILLS.—No family should be without these pills. When hot and sultry weather predisposes to fevers of all kinds, more especially remittant, typhus, typhoid, or, as the last is now newly named, enteric fever, their long-tried efficacy in removing indigestion, stimulating the bowels and purifying the blood, has secured for them imperishable praise throughout the globe. Whatever the disease, a few doses will remove the more urgent symptoms, and, therefore, control all disordered action, rouse the torpid liver, empty the engorged spleen, cleanse the obstructed kidneys, assimilate the food, improve the blood, and thereby confer on the brain and every function healthful vigour, natural activity, and wholesome regularity. In trying seasons this medicine will save many lives.

Original Correspondence.

SUGGESTIONS ON THE PREVENTION OF GAS EXPLOSIONS IN COLLIERIES—No. II.*

SIR,—I have purposely not given the dimensions of the "ignition 'cages" or "fire-damp traps," as their sizes would vary according to prevailing circumstances. Cases may arise, for example, where it may be desirable to create a ventilation locally, and independent of the general ventilation of the mine; and in such cases the ignition cages and their tubing would have to act chiefly as ventilating apparatus, and would hence contain larger burners, and require to be of larger dimensions. But under ordinary circumstances the ignition cages—although, of course, larger than ordinary safety-lamps—would, nevertheless, not exceed a certain size, and hence be easily portable. I have now devised various contrivances or safety arrangements, whose aim it is to enable us to easily renew the flames of the burners of the fire-damp traps with perfect safety, even in the very presence of fire-damp, but I could not clearly explain these contrivances without the aid of illustrative diagrams, and I deem it besides desirable to avoid as much as possible any arrangements of a less simple or a complicated character. I would, hence, simply suggest that there be kept at least two fire-damp traps for each station or section of fire-damp conduits (German, Schlagwetter-Röhrenleitung), so that the one cage requiring to be renewed could at once be replaced by the other freshly prepared and put in order cage. The upper sheet-metal part of the fire-damp trap (its cover or roof) might be so constructed that the fire-damp trap could be easily separated from it; that cover might, in fact, be permanently fixed to the intake end of the tubing or conduit. Let us call the one ignition cage or fire-damp trap *a*, the other *b*, both being perfectly alike in size, shape, and external and internal arrangements. Supposing, now, the cage, *a*, requires to pe renewed for the purpose of being cleaned and furnished with a fresh supply of oil, &c.; first of all the burner in the said cage, *a*, is extinguished, and the cage, which fits to the roof or cover by means of slide grooves and tongues, is pushed out of its place towards one side, and the cage, *b*, with its burner alight, is pushed into the place of *a* from the opposite side, while at the same time the temporary cover with which for greater safety the cage, *b*, is furnished, and which temporary cover has slide grooves, &c., of the same size and shape as the permanent fixed roof, is cautiously removed from the top of the cage, *b*, as the latter is being slid into its position, the said temporary cover being taken away with the cage, *a*, now replaced. Of course, care should be taken that the line of junction between the cages and the covers should not contain any dangerous openings, but be closely and exactly fitting. The cages should be renewed or replaced proportionately early—that is to say, at a time when the cages about to be replaced would still contain such a supply of oil, &c., as to enable them to burn a few hours longer if necessary. It is advisable to take this precaution, because it is just possible that explosive gases may present themselves exactly at the time when the renewal of the cage is to take place, so that it might be considered better not to run the risk of carrying out the replacement, but rather to allow time for the neutralising action of the apparatus to proceed, and that would, of course, not be possible, and inconvenience would be caused, if the flame were soon to get extinguished on account of running short of oil. The periodical cleaning of the wire gauze parts of the apparatus had best be effected by employing a strong pressure air blast, as thus the wire-gauze would not be worn out so soon. As the explosive gases would enter into the apparatus or fire-damp trap only through the wire gauze sides, which begin just above the burner, by whose flame they would be ignited, and as the burning respectively the burnt gases are at once carried off through the tubing which commences at the top of each cage, it is obvious that the lower parts of the ignition cage would be but little, comparatively speaking, affected by the heat, and might hence be surrounded by a casing consisting of tempered glass, so that the light furnished by the flame of the ignition cage would at the same time be utilised for lighting up those parts of the works where the ignition cage is situated. By means of properly constructed reflectors† the light might be thrown to any parts at some distance where it might be required, the reflectors being so adjustable that this light could be thrown in any desirable directions.

Now, as regards the other tubes which have already been alluded to, and which serve the purpose of bringing air to the ignition cages from other parts, it is necessary to state that their ends within the cage should be quite close to the burners, so that the latter would have a constant and steady supply of air, and would be enabled to continue burning also when the upper parts of the cage are filled with burning gases. It has already, too, been mentioned that the flames should be of sufficiently large sizes in order that they could not easily be extinguished by the strong draught which naturally would prevail during the active action of the apparatus. As it is well known that the dangerous gases mostly accumulate in the higher parts near the roof, it is a matter of course that the intake ends of the air supply tubes should be placed as near the floor as possible, as there it may be rightly supposed that a sufficient percentage of good air would always be at hand. Those cases would, perhaps, be very rare where it would be necessary to bring the air supply for the ignition cages directly from the downcast or intake shaft by means of a special set of tubing. Other tubes which might in some cases be thought necessary for bringing explosive gases to the ignition cages from remoter parts of the works would, of course, have their issue ends (German, Ausmündungen) in the upper parts of the cages, while their intake ends are to be placed in spots where explosive gases are most likely to accummulate.

The diameter of the tubes or conduits which lead from the ignition cages to the upcast shaft is, of course, in proportion to the size of the ignition cage, and the distance between the latter and the shaft. Where the length of the gas conduit exceeds a certain distance there it is to be feared that the steady flowing of the gases might be retarded on account of them getting too cool. In order, now, to prevent such taking place, and to keep up the regular action of the arrangement, we should cause the upwardly-curved (aufwärtsgekrummten) ends of the tubes to issue in vertical tubes or pipes made of clay or firebrick ware, which would be arranged around the ventilation furnace in such a manner that they would be warmed by the heat of the fire of the furnace, whereby the air respective gases would be caused to expand and be carried upwards more speedily, so that in this manner a sucking or drawing action would take place within these vertical ends, which would greatly accelerate the flow of the gases in the conduits. The same result might be reached by placing under the tubes here and there lamps properly guarded, by whose flames the higher temperature of the gases within the tubes would be kept up. But it would no doubt be cheaper and simpler to effect that end by means of the above-mentioned vertical tubes—by simply attaching to the tubes of greater lengths vertical ends of correspondingly greater heights.

The periodical steaming of the tubes or pipes is simply effected by means of properly shaped brushes fixed to rods of the necessary

* For No. I. see *Mining Journal* of March 11 and (in German) "Die Berg und Hüttenmännische Zeitung" of March 24.

† In an April number of the *Mining Journal* of the year 1857 I proposed the introducion of reflectors for lighting mines, as also gas lights for coal mines, and electric light for other mines, being led to that idea by an experiment which I had successfully made at the N'Omies Copper Mine in South Africa, in the year 1854. Our supply of oil, &c., had been all exhausted and fresh supplies from Cape Town had not yet reached the mine, but at the same time I had absolutely no useful work aboveground in which to employ the workmen during the time when, on account of having no lamps, they must cease working underground; so, to avoid waste of time and consequent loss, I constructed a series of reflectors, making each reflector out of sheets of tin-plate, mounted on an extemporised frame, and by means of these reflectors I carried the reflected light of the sun right to the end of the adit and up the stopes, so that we could see the thinnest veinlet distinctly. We had, in fact, rather too much light, for the men complained that whenever they turned round so that the flash of the reflector would strike their eyes, it was almost as disagreeable as if they were looking into the sun. At that time I also made experiments with a view of roasting copper ore by means of concave mirrors, but, owing to deficiency of proper materials an I apparatus, I did not succeed. I read the other day that an experiment has been successfully made in France, consisting in heating a steam-boiler by concentrated sun rays, and I believe similar experiments made in the almost always cloudless parts of Africa might lead to very useful and economical results.

length. For this purpose certain lengths of the tubing are so arranged that they could be exactly taken out of their places, the said removable parts of the tubes would for this end have to be furnished with what I should call slip-collar pieces of a conical cross-section at each end, which slip-collar pieces, when the piece of tube is to be placed in its position again would be slipped—that is to say, half the length of each collar-piece—upon correspondingly conical-shaped ends of the fixed unremovable tubes, and the joints could then be closed by putty.

It is a matter of further consideration whether it would be at all necessary to furnish our system of tubing with the indicator-signal apparatus already alluded to, or whether the increased rush of the gases, which naturally would take place when an ignition occurs, would by itself alone be sufficiently conspicuous so as to arouse the attention of any persons near, who then would give the alarm and warning of danger throughout the workings. The action of the indicators proposed by me chiefly rest upon the circumstance that metal expands when exposed to heat, and the apparatus would consist either of a thin rod of copper of sufficient length, bent in a spiral form, or of an iron vessel filled with mercury, which mercury would also at the same time penetrate in the shape of a thin column into a glass tube, which would be connected with the mercury reservoir. In the one case the metal-rod getting more and more elongated on account of the increased heat, would at last touch a piece of metal which forms the end of an electric wire, and in the other case, the column of mercury, being likewise caused by the heat to rise higher than usual, would also touch at last a piece of metal similarly connected, and in the one case as well as the other the electric current would be closed and an alarm-bell be caused to sound, giving warning of the presence of danger, when all hands would proceed to places of safety, while the specially organised fire or accident brigade would at once take all the measures that may be necessary for disarming the dread enemy.

On another occasion I shall send some further suggestions on the organisation and equipment (German "Ausrustung") of that special service branch the Firedamp Brigade, whose speedy creation in any large mine would indeed appear a measure that could not be carried out too soon. I beg to close this communication by expressing the fervent hope that the time may have at last arrived when those dreadful periodically occurring calamities—colliery explosions—which have caused and continue to cause such fearful losses of valuable lives and spread much dismal misery amongst the surviving relatives, will be rendered impossible for all time to come, for where there is a will there is a way, and I trust I have pointed out a very simple and practical way. G. J. GUNTHER.

Erzgebirge, Saxony, June 11.

(For remainder of Original Correspondence see this day's Supplement.)

Meetings of Public Companies.

PLYNLIMMON MINING COMPANY.

The annual meeting of shareholders in this company was held yesterday, at the offices, 8, Austin-friars,

Mr. E. W. WINGROVE in the chair.

Mr. J. H. MURCHISON (the London manager) read the notice convening the meeting, and the report and accounts were taken as read.

The CHAIRMAN said before putting the formal resolution he would like to make a few observations on the accounts, reserving the question of the liquidation until after the conclusion of the business of the ordinary meeting. It would be noticed that the result of the working of the mine—during about six years—had been a loss of about 3066*l.* 5*s.* 4*d.*, and the position of the company at the present moment was that the liabilities exceeded the assets by about 665*l.* 4*s.* 2*d.* In addition to this there were certain works in progress which would probably cost 250*l.*, which was for putting in some horizontal rods for the purpose of unwatering the mine. They were also engaged enlarging the present reservoir, besides which it was proposed if the mine continues to be worked, and the reservoir of similar size should be made at a probable cost of 300*l.*, and these items together would represent an immediate requirement of about 1300*l.* or 1400*l.*, which sum would be, he had been informed, be sufficient to carry on the mine in its present condition, but not sufficient to develope it as its present indications would warrant them in doing if the shareholders decide to continue it. Capt. Garland, who was present at the meeting, had informed him that the mine looked better now than for the past two years, and he is of opinion that there are good prospects of success in the mine. However, these questions would be more fully considered at the meeting which would follow; and he would now propose "That the manager's report and the accounts now presented be passed and adopted, printed and circulated amongst the shareholders." They have already been distributed amongst the proprietors.—Mr. HULL seconded the motion, which was carried without discussion.

The extraordinary meeting was then held for the purpose of considering, and if deemed advisable passing, the resolutions set forth in the notice convening the meeting.

The CHAIRMAN, having explained that the extraordinary meeting had been called in such a manner as to avoid the necessity of having a confirmatory meeting, which would be a mere matter of form, stated that the first, second, and third resolutions were the resolutions ordinarily proposed in the case of liquidating companies. The fourth resolution was, however, the gist of the whole affair. This decision had been arrived at after mature deliberation by the directors, by whom the scheme had been unanimously approved as the best course and, in fact, the only course open except to abandon the mine. It was, he believed, the best course to adopt under the circumstances. The resolution was as follows:—

"To authorise the liquidator to enter into an arrangement for the transfer of the whole of the property and assets of the company, of whatever nature or description, to a new company to be formed and registered under the Companies Acts, 1862 and 1867, with limited liability, having a nominal capital of 24,000*l.*, divided into 12,000 shares of 2*l.* each, in consideration of the said new company taking upon itself the whole of the debts and liabilities of this company, and paying the costs and expenses necessarily incurred in connection with the winding up of this company, and also in consideration of the allotment of 6000 shares of 2*l.* each fully paid up in the capital of the said new company, such shares to be distributed *pro rata* amongst the shareholders in this company; 3000 shares further part of the said capital of such new company to be issued as fully paid up; one of such shares to be allotted as a bonus share in respect of each of the remaining 3000 2*l.* shares to the subscribers thereof, such last mentioned shares to be offered in the first instance to the shareholders in this company *pro rata*."

By this means a holder of 100 shares in the old company would receive 50 shares in the new company under any circumstances, and if he chooses to subscribe for 25 more, and pays 2*l.* on each of them, he will receive a bonus of 25 fully paid up shares, so that for a subscription of 50*l.* he would hold 100 shares in the new company, with a value attached to them above that now possessed by the shares, as the necessary funds would have been subscribed, and this might induce the shareholders to come forward and assist to preserve the property. In any case, the shareholders would get more than if the company were absolutely wound-up. It was not proposed to go to the general public for subscriptions, but to confine the matter to the shareholders in the old company. He (the Chairman) concluded, after a few general remarks, by moving a resolution for the voluntary liquidation of the company.

Capt. GARLAND, in reply to various questions, stated that he believed 5000*l.* would be sufficient to develope the mine thoroughly, and to provide the necessary machinery, &c. The mine looked better at the present bottom than at any point above, and he thought if his recommendations as to the horizontal rods, reservoir, &c., were carried out the mine had very good chances of success.

Mr. MURCHISON stated, in reply to a question, that the ore sold by the company which worked the mine previously to the existence of this company, realised 13,000*l.*, and by this company 22,919*l.* 12*s.* 7*d.*, for 1717 tons 5 cwts., at 13*l.* per ton; so that the ore sold from the mine had realised 35,919*l.*, although the depth attained was only 24 fms.

After a short conversation the resolution for voluntary liquidation was carried; and on the motion of Mr. Hull, Mr. Wingrove was appointed liquidator, the fee being fixed at 25 guineas. The scheme of reconstruction was approved of; and after a few formal resolutions had been passed, the proceedings terminated with a vote of thanks to the Chairman.

COMPANY OF COPPER MINERS.—A meeting of shareholders was held, at the Cannon-street Hotel, on Wednesday, but reporters were excluded, upon the ground that the proceedings were of a purely private character, and that publication might interfere with arrangements in contemplation.

[For remainder of Meetings see to-day's Supplement.]

ROCK DRILLS.—The invention of Mr. S. INGERSOLL, of Stamford, U.S., relates to means of changing the direction of the drill without disturbing the supporting tripod; also to the mode of actuating the valve and the feed mechanism, and to devices for holding the tool in its place, and to other improvements in the details of the apparatus.

WINNING COAL.—The object of the invention of Messrs. DINGLEY and ACKERS, of Lower Ince, near Wigan, is to facilitate the winning or getting of coal from its natural bed by breaking down after undercutting or by breaking out from the solid, and to do so by simple and efficient hand appliances, dispensing with cumbrous power machines and the danger, inconvenience, and expense of blasting. For these purposes a hand-drilling machine is employed to bore a deep hole in the coal, and afterwards a breaking-down tool or appliance is used, which latter, after being inserted in the drilled hole, is caused to expand or open by the action of a long wedge driven through by blows from a hand hammer, and force the coal from its bed.

A FLYING VISIT TO THE LAND OF BURNS.

The novelist with his wondrous amount of fiction, the poet with his power of ideality, and the painter with his canvas sketches have more than ample scope for the display of Nature's charms, whilst the matter of fact writer must content himself to depict scenes as they actually occur, and forego the gaudy imagery of the less veritable genii. The man of thought, or rather man of fancy, would tell you that colossal like reared in imperial splendour the snow-capped mountains of the land of Burns, and like picturesquely grotesque amphitheatres appeared the numerous silvery lakelets, surrounded by their verdant trees, but it is my intention to forego such questionable descriptions, and however far I may fall short of the poetic, I must for the edification of your readers adhere to the matter of fact.

I left Liverpool by steamer, and arrived safely in Wigton Bay. To assume the nautical, we passed fair Mona's Isle on our larboard side, and gradually the brilliant light on the point of Ayr dwindled into obscurity. From Wigton to Newtownstewart we went by coach, a most interesting drive of some six or seven miles; the scenery was really magnificent. A wind—nay, I will call it a zephyr—swayed the blossom-bearing trees; the humming of the bee was heard, and the butterfly upon the wing was seen; I could not refrain from exclaiming "How positively delightful;" it seemed, indeed, a paradise—

"Where Heaven descends, and Eden is revived"

But I forget, I must not turn sentimental. I have vowed to adhere to the most prosy of all commonplace prose. We saw the mountain of Cairnsmore towering in splendour to the azure sky, and the hills of Minnigaff also. Making a very necessary descent from the sublime to the prosaic, we satiated the cravings of the inner man, and then commenced our ramble. I, having a copy of your valuable paper in my pocket, it occurred to me that as I was in the far-famed metalliferous district of Kirkcubright, it might be of some benefit to your numerous readers to give a description of the surroundings, the more particularly so to those of them who are pecuniarly interested in lead mines in the immediate neighbourhood. Proceeding along the New Galloway Road I first discovered a quantity of debris, which might possibly have been passed by unnoticed by an uninitiated eye, but to me it had a charm; I saw value beneath it. I next came across what I was afterwards informed was the washing-floors of the Old West Black Craig Mine, at which property, judging from outward appearances, a tremendous deal of work must have been done, and a harvest of hundreds of thousands realised in days gone by.

Passing a short distance towards the east side of the hill I found the East Black Craig Silver-Lead Mine, where some scores of men were hard at work getting splendid ore from a depth of 118 fms.; a pumping-engine was at full work, also an engine for drawing purposes, and several water-wheels for crushing and dressing the ores. I was told, and I have reason to believe on very good authority, that this mine is exceedingly rich, and judging from what I saw myself I should certainly feel justified in endorsing the information. I have seen mines innumerable in my 62 years' experience, but anything so really substantial and *bona fide* I have seldom seen, and happy indeed must be those investors who have launched their capital on such safe and trustworthy waters. This mine, I learnt, was purchased a short time ago by some gentleman of the name of Ash, or Ashe, who afterwards formed it into the present most prosperous and enviable limited liability company. Mr. Ash and his friends are, I understand, about opening up the Cairnsmore Mine, which adjoins the one of which I am writing, and upon paying a visit to it I found on taking out my compass that the Cairnsmore lode is identical with the Black Craig, the ore which I handled myself being of the very same quality. It is certainly to be desired that this gentleman may be as successful with the Cairnsmore as he was with the East Black Craig Mine, and enterprising speculators who have lavished their thousands on worthless undertakings will soon have an opportunity of recouping their purses from a source which can scarcely fail. But as I am giving you a brief description of my visit to Caledonia's shores, it will be unfair to adhere to mining operations exclusively, however profitable they may be. I will, therefore, say that I noticed what a splendid educational establishment the Ewart Institute is at Newton Stewart, under the able directorship of that scholastic giant, Mr. John St. Clair. There is a very pretty ecclesiastical edifice named All Saint's Church, at Penningham, built by Stopford Blair, Esq., at a cost of several thousands, and the parsonage is an elegant structure, inhabited by a very worthy pastor, the Rev. Mr. McKenzie, a gentleman deservedly beloved by all.

Reader, should you visit Newton Stewart do not pass through without criticising the architecture of the New National Bank of Scotland, certainly the leading financial institution of the four which have branches in this town. There is a new monument which has lately been erected to the late noble Earl of Galloway, which is well worthy a visit; and as I am only giving the description of a flying visit, I will not enter into further particulars, sufficing it to say that so far as the picturesque is concerned it is universally acknowledged that Scotia has never been superseded, and Sir Walter Scott wrote two truthful lines when he stated—

"Caledonia meek and mild,
Fit nurse for a poetic child."

But I have arrived at the conclusion of my narrative, and although it is not written with the graphic pen of a Virgil, or besmattered with the gaudy imagery of Arabia's Thousand Nights, it has, at least so far as the speculative and commercial portions are concerned, the advantage of bearing upon it the ever welcome impress of the goddess Truth.

ANNUAL RECORD OF SCIENCE AND INDUSTRY.

From the enormous number of labourers at present in the field of scientific research, and the facilities existing for making their researches known, it is almost impossible for the ordinary scientist to keep himself well posted upon what is being done beyond his immediate sphere, although a knowledge of the progress making in other directions may be extremely useful to him indirectly by enabling him to correct erroneous conclusions he may himself have formed, and to avoid attempting what, judging from the results achieved by others in connection with cognate matters, is unlikely to lead to success, and hence the value of such volumes as that now under consideration* can scarcely be overestimated, for the leading discoveries in the several branches of natural and industrial science are brought together in a compact form, and the account of each is sufficiently complete for the reader at once to judge whether it is necessary that he should enquire further into the matter. In all works of this class much depends upon the care and judgment displayed in its arrangement, and upon this point Mr. Baird's volume leaves little to desire. In a general summary of some 20 pages information is given which adds considerably to the interest with which the remaining portion of the work will be read. The volume shows that the Americans do not permit their love of commercial and industrial enterprise to lead them to neglect the higher branches of the pure sciences; American mathematicians and astronomers are competing nobly for a position beside the greatest men in Europe as original workers, and they lose no opportunity of providing themselves with the best appliances for enabling them to work successfully. The observatory erected on the grounds of Columbia College, New York, has been connected with the systems of telegraph lines throughout the city, and will, it is hoped, soon be in a position to furnish standard time to all. Its astronomer is mentioned in connection with the transit of Venus, and devoted much time and gave invaluable advice to the American parties, and has received in return from the commission a beautiful gold medal as an acknowledgment of his gratuitous services.

The section devoted to mathematics and astronomy is subdivided into mathematical and theoretical mechanics and astronomy; and terrestrial physics and meteorology is subdivided into terrestrial physics, including dynamical geology and meteorology. General physics is classified into general, sound, light, heat, electricity, and magnetism, and it is mentioned that a series of satisfactory experiments has lately been made in Russia with regard to lighting railway tracks from the locomotives by means of the electric light. The track on one occasion with a battery of 48 cells was brilliantly illuminated 492 yards ahead. In the section of chemistry and metallurgy reference is made to the discovery of J. L. Davies that zinc will precipitate nickel from a solution strongly ammoniacal, and also to Hartley's new and beautifully simple method for assaying iron. Equal weights of the ore and of pure iron ore are separately dissolved, and each solution titrated in the usual manner by permanganate of potash. Then to get the percentage of iron in the ore the simple calculation $100\ m \div n = x$ will suffice; m and n being the quantities of permanganate solution used respectively for the ore, and for the wire and x the value sought.

The method is remarkably accurate, even in the hands of beginners. Lecoq de Boisbaudran's discovery of a new metal—gallium—an analouge of zinc is mentioned. Discoveries of this class are of vast importance to metallurgists, as it frequently enables them to detect the cause of a defect in quality of a manufacture which would otherwise remain long undiscovered. Mineralogy and geology, general natural history and zoology, botany, agriculture and rural economy, pisciculture and the fisheries, mechanics and engineering, technology, &c., are all dealt with in separate sections, and these are followed by a good necrology and bibliography, the whole being rendered easily accessible by the excellent index which concludes the volume.

The present is the fifth annual edition, and is certainly superior, both in selection of matter and in arrangement to its predecessors. It is now a really excellent and complete review of the year's scientific progress, and one which cannot be too highly commended, whether for its utility or interest.

* "Annual Record of Science and Industry for 1875." Edited by SPENCER F. BAIRD, with the assistance of eminent men of science. London: Trübner and Co., Ludgate Hill.

TECHNICAL EDUCATION IN GERMANY.—The programme for 1876-77 of the TECHNIKUM MITTWEIDA has just been issued, and from the facilities which the school offers for obtaining a sound technical education at a moderate price it is well worthy of consideration. Mittweida is conveniently and centrally situated, being half an hour's journey from Chemnitz, three from Dresden and Leipzig, two from Freiberg and Zwickau, and five from Berlin. The teaching staff consists of the director, professors of mathematics, mechanical engineers, teachers of languages and commercial matters, and assistants. The fees amount to about 6*l.* per session of six months, with perhaps 1*l.* extra when additional subjects are taken, and arrangements have been made by which students can procure board and lodgings upon reasonable terms. The chief advantage of the Technikum, as compared with the School of Science, appears to be that in the former greater attention is paid to the arrangement of the classes in such a manner that no student is compelled to learn the higher branches of any given subject unless he is likely to require it in the particular branch of industry to which he proposes to devote himself in after life. By this means each is enabled to obtain more than usual of the particular kind of knowledge useful to him, although he may get a little less general scientific knowledge than might be acquired in the School of Science. The July vacation being about to commence an opportunity is afforded those who intend to become students at the Technikum to make their arrangements in time for the new session, commencing on Aug. 1, and the director will be glad to furnish all necessary details upon application being made to him. As the three examinations which lead to the diploma are passed at the end of the first, second, and third year respectively the encouragement to cram is much lessened. It should be mentioned that an elaborate and exhaustive paper by Prof. C. Schinke, who occupies the chair for machine construction—Der Effectverlust im Ausgussbogen der Zellenräder ohne Mantel—is annexed to the new programme, and will afford an idea of the competence of those by whom the instruction is given.

THE WEEK.

MONDAY.—Railways were flat in the morning, but subsequently improved, and closed strong in tone. There was again a demand for Metropolitan, the recommendation of the Select Committee that as regards suburban trains all fares up to 9*d.* be exempt from passenger duty, being especially favourable to this company. It must not, however, be lost sight of that the committee only recommend the change "when the state of the public revenue will permit," and of course nothing can be done this year. Caledonian rose 2 per cent., to 116*l.*, attributed to buying orders from Glasgow, and the closing of several "bear" accounts. Foreign stocks were extremely heavy, and closed at about the worst. There was an average fall of 1¼ in Russian and Hungarian, but Egyptians maintained their quotations. Pennant, 5 to 5¾; Alltami Colliery, 5 to 5½; Chapel House, 2½ to 2¾; Aberdaunant, ¾ to ⅞; Direct Cable rose 17*s.* 6*d.*, to 8¼ to 8⅜; Rhymney Iron, 21 to 23; Hudson Bay, 17⅛ to 17⅜.

TUESDAY (making up day).—The adjusting of the account to-day showed very plainly that stocks were not nearly so much oversold as some people imagined. At the commencement ⅞ backwardation was asked on Birmingham and Berwick, which soon gave way to ⅝. No contango exceeded more than a quarter, Birmingham made up at 141, and Berwick at 156¼, but neither quotation was maintained to the close. Argentine on this occasion could be easily borrowed for 7-8th per cent. against former backwardations of 3*l.* and upwards. Strange to say Egyptians were scarce, and ⅝ had to be paid by bears. York A made up at 135⅞, but fell to 135¼. Caledonian, however, rose 1¼; Brighton, ⅝; and Metropolitan, ½.

WEDNESDAY.—The serious attitude of Servia led to a very depressed tone to-day, though prices did not close at the worst. At one time Caledonians showed a fall of 3*l.*, York A 2½, Midland 2⅜, and North British 1½. Midlands were prejudiced by the backwardation of yesterday (10*s.*) having to day been quite lost. Berwick and Birmingham, after being very flat, recovered just before 4 o'clock a large part of the fall. Most of the traffics showed decreases. Great Northern, however, had an increase of 1557*l.*, British a decrease of 3094*l.*, Great Eastern one of 67*l.*, Sheffield one of 20*l.*, and Birmingham a decrease of 173*l.* Egyptians opened 38¼, 39, and after falling to 38, closed 38¾ to 39. Suez Canal, 27 to 29. Rookhope Valley, ¾ to 1.

THURSDAY.—The markets opened with extreme depression; and, although in the afternoon railways showed a recovery, Hungarian, Russian, and Turkish closed flat. Tamboff, Kostoff fell nominally 6½ per cent., and the bonds of the 1822 Loan 2*l.* 10*s.* Hungarian of 1873 dropped 2*l.* Egyptians were adversely affected; although the general market at Paris was more excited than our own, gigantic efforts were made to prop up prices, with moderate success. The 1873 Loan closed 38½ to 39—a rise of ¼; and that of 1868, 39¾ to 40—10*s.* better. The principal change in railways was an advance of 1¼ in Brighton A, and a rise of 1*l.* in Sheffield; the former, after being 92, closed 94½ to 94¾; York A, 133¼ to 133¾; Metropolitan, 100⅞ to 101½; Sheffield, 64 to 64¼. The settlement, on the whole, was concluded very satisfactorily, there being only one small failure. The suspension of Messrs. Lumb and Wanklyn, well known in financial circles, was announced to day. West Wye Valley, 3 to 3½; Pennant, 5 to 5½; East Van, 7½ to 8; Eberhardt, 8¾ to 9; a dividend of 5*s.* per share will be payable on July 10 here. General Credit, 5¾ to 6; Eley Brothers, 23½ to 24½.

FRIDAY.—The Earl of Derby's statement last night, "I have little, if any, hope that war can be averted," has led to fresh apprehensions of danger, and prices are all lower. Berwick, 155¼ to 155¾; Dover, A, 111½ to 112; Brighton, A, 93¾ to 93⅞; British 90½ to 90¾.—*Two o'Clock.*—The tone of the market is not quite so bad, but a very uneasy feeling exists, and the volume of business transacted is very small. Berwick are now 156; and Dover, A, 111¾ to 112.—*Four o'Clock.*—Very little change has taken place, but quotations are not worse. British, 90⅝ to 90⅞; Birmingham, 142¼ to 142½; Sheffield, 63¾ to 64. Egyptian remain 38⅛ to 38¾; West Wye Valley, 3 to 3½; Aberdaunant, 10*s.* to 15*s.*

Birchin-lane, June 30. FERDINAND D. KIRE.

Registration of New Companies.

The following joint-stock companies have been duly registered:—

MELYNDUR LEAD MINING COMPANY (Limited).—Capital 33,000*l.*, in 3*l.* shares. To acquire from the liquidators of the Melindur Valley Lead Mining Company (Limited) the lease and plant of the mine, and all the assets of the company. The subscribers (who take one share each) are—W. Brooks, Croft House, near Hinckley, Leicestershire, esquire; G. Bedford, Roundtree House, Upper Tulse-hill, colliery proprietor; J. B. Mortimer, 13, Kildare-gardens, W., Lieutenant-Colonel; W. Bowman, Middleton-by-Moulgrave, Bakewell, farmer; Alexander Kerby, 14, Great Winchester street, solicitor; H. Halford, 26, Change-alley, stockbroker; W. R. Moore, the Laurels Thornton-heath, secretary. The directors are Messrs. H. A. Bennett, Nelson House, Manchester; A. Boyle, St. Helen's, Isle of Wight; Captain J. W. Claire, 26, Mariner's square, Brighton; Colonel Mortimer, 37, Kildare-terrace, Bayswater. The qualification being 50 shares.

LLESI COAL COMPANY (Limited).—Capital 50,000*l.*, in 10*l.* shares. To carry on coal mining operation and the general business of a coal mining company. No locality is mentioned. The subscribers (who take one share each) are—Hilton Philipson, Tynemouth, coalowner; J. Hall, 9, Priory terrace, Tynemouth, coalowner; J. V. Gregory, 5, North terrace, Newcastle, coal factor; John Daglish, Collingwood Tower, Tynemouth, mining engineer; A. L. Lungton, 8, Cecil-street, North Shields, accountant; F. F. Brown, Cardiff, mining engineer; G. F. Adams, North Cliff, Penarth, mining engineer. The directors are F. F. Brown, H. Philipson, James Hall, John Daglish; the qualification being the holding of shares or stock to the value of 500*l.*

JOHN GRINDROD AND COMPANY (Limited).—Capital 10,000*l.*, in 100*l.* shares. To mine and work for coal and stone, and also to deal in building materials, &c. The subscribers are—John Grindrod, Tongend, Whitworth, stone merchant, 5; James Grindrod, Tong End, Whitworth, 7; J. H. Brown, Haslingden, quarry master, 5; James Hill, Waterfoot, 5; Rowland Rawlinson, Newchurch, woollen manufacturer; H. Royle, Moss Side, 1; J. Trickett, Waterfoot, 5.

GEORGE BOWER AND COMPANY (Limited).—Capital 100,000*l.*, in 10*l.* shares. To acquire the business of Mr. George Bower, of St. Neots and West Hartlepool, engineer and contractor, &c. The subscribers (who take one share each) are—George Bower, St. Neots; G. S. Bower, New College, Oxford; Joseph Kincaid, 46, Cannon-street, E.C.; Sir Wilford Brett, Esher; C. J. Ewen, Harlingford; J. A. Eaton, St. Neots; J. Bennett, St. Neots.

TUSCAN GAS COMPANY (Limited).—Capital 25,000*l.*, in 10*l.* shares. To acquire concessions for lighting the town of Prato, Italy, and also to take over the gasworks established there. The subscribers (who take one share each) are—C. Horsley, 174, Highbury New Park; A. F. Phillips, Wood Mead, St. Albans; Robert Laidlaw, East Milton street, Glasgow; R. Murdock, Robertson-street, Glasgow; F. C. Harris, Upper George street, Luton; E. Hart, 156, Highbury New Park.

CRAIK'S WAGON WORKS (Limited).—Capital 20,000*l.*, in 10*l.* shares. To acquire a railway wagon builders business at Barnsley. The subscribers (who take one share each) are—G. W. Craik, 49, Church street, Barnsley; J. T. Armitage, Glassop; J. O'Carr, Barnsley; G. Turner, The Hollies, Sheffield; J. Wilcock, Sheffield; W. Smith, Barnsley; R. Parkinson Neale, George street, Sheffield.

WALKER AND HACKING (LIMITED).—Capital 200,000*l.*, in 50*l.* shares. To acquire the business of Messrs. Richard Walker and Brother, together with that of Messrs. Walker and Hacking, of Bury, Lancashire, iron and brass founders. The company will carry on smelting operations and the general business of iron and brass founders. The purchase has been effected for 80,000*l.* The subscribers are—Richard Walker, Bury, Lancashire, ironfounder, 230; Tom Scholes Walker, Bury, ironfounder, 100; O. O. Walker, Bury, esquire, 300; E. Grundey, Wrigley Brookoak, Bury, paper maker, 300; J. Whitehead, Broughton, Manchester, bleacher, 300; Thomas Lomax, Openshaw, Heaton, cotton spinner; Richard Walker, jun., Bury, 150. The directors are Messrs. Richard Walker, J. S. Walker, O. O. Walker, E. G. Wrigley, J. Whitehead, T. Lomax, Openshaw, &c. The qualification is the holding of 100 shares.

MANCHESTER REAL ICE SKATING RINK (Limited).—Capital 25,000*l.*, in 5*l.* shares. To construct a real ice skating rink at Manchester. The subscribers are—C. Haworth, Holme Mill, Haslingden, 200; S. Royle, jun., 104, Egerton place, Manchester, 100; F. C. Lough, 8, Market-place, Manchester, 100; J. Hall, Victoria-street, Manchester, 25; J. Mills, Salford, 100; J. Morehouse, Stockport, 100; Thomas Rivett, Stockport, 100.

LACEY AND COMPANY (Limited).—Capital 25,000*l.*, in 1*l.* shares. To acquire the business of sauce manufacturers hitherto carried on by Mr. H. R. Lacey.

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—S. Toy, June 28: The new shaft is down 9 fathoms 3 feet. During the past week we have put new ladders in the shaft from surface to the bottom, which are of great advantage to the men in climbing up and down; we have also fixed a fan at surface, and put in pipes to convey air to the bottom of the shaft, which is now well ventilated, and the men are making good progress in sinking. Deep adit cross cut, towards the new shaft, the ground is favourable for driving. No. 2 adit, driving east, the lode at present is poor, but very large, and is of a greater underlie than it has been. No. 1 adit, driving east, the lode is turning more towards the south, with not so much underlie; we have broken some good stones of lead from it this week, and at present it is looking kindly for further improvement. In the east part of the sett (Crowlwm) the ground in the south cross-cut has been hard for driving during the past week, but is now changed for the better.

ASSHETON AND WEST ASSHETON.—J. Craze, June 29: We have resumed the sinking of the boundary shaft below the 70. The 70 cross-cut is now in, over 3 fathoms, the last 4 ft. of which has been driven in spar, blende, and copper ore, with stong spots of lead. I would here remark that about 7 or 8 ft. previous to intersecting the lode in the 60 we met with a branch of spar, and according to our views this (now cut in the 70) must be the same thing opened out into a strong lode. According to the underlie of the lode in the 40, 50, and 60 we have about 2 fathoms further to drive to intersect the same lode as we are now working upon in the above levels: set to six men, at 8/. per fathom The lode in the 60, west of the cross-cut, is 2 ft. wide, composed of spar, blende, and lead, and has greatly improved since my last; here we expect a further improvement very shortly; set to four men, at 5/. per fathom. The lode in the 60, east of cross-cut, is over 2 feet wide, composed of blende, spar, and lead, of a very promising character, and judging from present indications we are on the eve of cutting into a good course of ore; set to four men, at 3/. 15s. per fathom. The 40, east of cross-cut, is now in 7 fathoms, and the men are engaged effecting a communication with the 40, from Asshcton Proper; the lode here varies in value from 1cwt. to 30/. per fathom.—Asshcton Proper: We have set six tribute pitches—two men in the back of the 40, east of Browne's, at 2/. per fathom; two men in the back of the 4', west Mawr, at 7/. per ton; two men in the back of the 30, east of Browne's, at 7/. per ton; two men in the back of the 8, east of Mawr, at 8/. 10s. per ton; two men in the back of the 8, west of Mawr, at 5/. 10s. per ton; two men in the adit, on north and south lode, at 7/. per ton. We have also one stope in back of the 30, west of Mawr, by two men, at 2/. 5s. per fathom. We sampled 30 tons of lead yesterday, for sale July 6.

BEDFORD UNITED.—R. Goldsworthy, William Phillips, June 29: The lode in the 103 west has been partly taken down, and, so far as seen, is worth 16/. per fathom. All other points as when last reported.

BRONFLOYD.—T. Kemp, June 29: The part of the lode opened on by the 110 end west during the past month has been of a somewhat more favourable description for progress, but within the last day or two the ground has again become exceedingly hard, being composed of killas and spar, strongly spotted with lead ore, and letting out water freely. The part of the lode carried in sinking the winze under the 96, to the west of shaft, is much the same as when last reported, composed of killas and spar, intermixed with ore, worth 10 cwts. per fathom: the ground still continues very hard, which renders progress slow. The lode in the stope to the west of Joshua's winze, over this level, is worth 18 cwts. of ore per fathom, in ground also hard for breaking. The lode in the stope to the east of Joshua's winze, and over this same level, does not seem to improve, being much the same as for some time past, worth 12 cwts. of ore per cubic fathom. The lode in the stope over the 73, to the east of the shaft, is worth 20 cwts. of ore per cubic fathom. I think it advisable the orestuff we are breaking should remain under the men's feet, or the greater portion of it, until this piece of ground is worked up to the bottom of the 82, to avoid re-filling the workings, which we find to be formidable and expensive work.—No. 2 Shaft, Middle Lode: The lode in the 52 end, west of Loyd's cross-cut, is showing a very kindly appearance, chiefly composed of killas and spar, carrying nice strings of lead ore, worth fully 10 cwts. per fathom, and judging from the strong and masterly character of the lode in the extreme point of this drivage we ought to have a good improvement. I fully believe there is lead in this locality. Owing to the tightness of the ground and ventilation not good we are progressing but slowly. We are pushing on with hauling and dressing as fast as our limited supply of water will allow. We shall sample to morrow (Friday) 5 tons of silver-lead ore, for sale on Thursday, July 6.

CALDBECK FELLS.—J. Polglase, June 23: The lode in the 90 end, on Silver Gill, is improved in appearance. I have taken several stones of lead from the end to-day producing lead. The stopes in the back of the 80 are poor. The men at Carrock are still costerning eastward on the back of the lode. There is nothing new to report here at present.

CARGOLL.—John Jennings, June 28: The 24, east of Doctor's shaft, is within 30 fms. of Bowyer's shaft, and are pushing it on as fast as possible, and good progress is being made. The lode is composed principally of flookan, quartz, mundic, and a little lead occasionally. The winze sinking below the 11, and just over the 24 end east, is much of the same character. The water is rather quick here, but as the 24 advances it will no doubt drain it: sinking by six men. In the 11, east of Bowyer's shaft, on the south lode, the leader of lead is improving, worth about 5 cwts. of lead per fathom, and it must be nearing the main part, as water is now oozing from that direction, and when together I shall expect to see a good course of lead again. Bowyer's shaft is sunk below the 11 fm. level 2 fms. 4 ft., and is being forced on as fast as possible by eight men. We have but little water here as yet, which can be kept by a barrel. We are also in course of erecting flat-rods, &c., attached to the engine, and will be ready for pumping as soon as required. The stope in the bottom of the adit is producing ½ ton lead per fathom.—Main Lode Adit West: The indications here are highly promising, and we shall not be surprised at any time to see a good course of lead. The new adit shaft, sinking upon the main lode, is sunk 5 fms. 4 ft., and is progressing satisfactorily.

CATHEDRAL.—J. Michell, June 26: The lode in the engine shaft is 3½ ft. wide, and will produce 2 tons of good copper ore per fathom. The lode in the 42 end east is getting more gossan, with copper ore throughout. The lode in the 42 end west will produce 1 ton of ore per fathom. The men in these bargains are doing very good duty. In the 30, driving east, there is a very fine gossan lode, with beautiful strata by the side of the lode, which, no doubt, will prove productive in depth—doubtless a rich course of copper ore.

CWM DWYFOR (Copper and Silver-Lead).—Joseph Jewell, June 29: Stewart's Shaft: This shaft is now down 6 fms. 4 ft. 6 in. below the 10; the lode in the bottom is yielding saving work for lead. We have two more branches in the bottom dipping north towards the lode.—Level on No. 4 Lode South: In this level, driving east of Stewart's shaft, the ground is getting easier, but the lode, though 2 ft. wide, is still poor. We are close on the sible referred to in my last report—re set to two men, at 11/. per fathom.—Level on No. 3 Lode South: In the level driving east of the south cross-cut the lode is from 3 to 4 ft. wide, composed of quartz, sulphur, and lead and copper ores—a strong lode. There is a horse, or piece of waste, between the north and south part of the lode, about 18 in. wide, but I hope soon to see this waste die out—level re-set to four men, at 14/. per fathom. We sold 10 tons of lead ore yesterday, to Messrs. Nevill, Druce, and Co., at 13/. 7s. per ton.

CWM ELAN (NEW).—W. Goldsworthy, June 24: We are going on with the new watercourse with all possible speed, having 33 men working in two parties, and, in accordance to promise, Mr. Williams will finish levelling next week. The parcel of blende is being carted to the railway station with full horse hire.

DE BROKE.—J. Phillips, June 28: We are making very good progress in the cross cut north, at the bottom of Wilson's shaft, now in 7 ft. The part of the lode we are driving upon in the 25 east is composed of killas, quartz, copper, and sulphur. The south part of the lode is being proved further east by a cross cut just started. The stope west of rise will produce 1½ ton of lead ore per fathom, and east of rise 2 tons per fathom. The stope west of junction is worth 12/. per fathom. The machinery is in good working order, and the dressing is going on fairly.

DENBIGHSHIRE CONSOLIDATED.—John Pryor, June 29: I had expected to announce the intersection of Coed-y-Felw lode this week, but the ground has been against good progress. The leader on the north side of the 112 east is showing nice ore. In the 112 west the lode is most promising. The rise in the back of this level during the last week has not looked so well, but has greatly improved since yesterday. I have accepted a cash offer of 14/. 15s. per ton for 4 tons of ore, which will go to morrow.

EAST BASSET.—Richard Pryor, Edward Adams, June 28: There has been no change on which to report throughout this mine during the past week.

EAST DARREN.—June 27: In the 130, west of Skinner's shaft, the lode is 4 ft. wide, little improved in appearance, showing small spots of lead ore. In the winze, sinking under the 114, the part of lode carried is not looking quite so well, being composed of a light clay slate, carbonate of lime, and small branches of lead, saving work for dressing of a low quality. In the drift east of winze, below the 92, no lode has been taken down since last reported on. The cross cut south, at the 92, is communicated to a pitch over the 104, giving good ventilation; the men from this point are now engaged in putting out a cross cut from the 80, to prove a south branch. The stopes and pitches throughout the different levels are without change to notice. Our machinery is in good order. Drawing and dressing progressing with all regularity, but supply of water daily falling off, through the present drought, which we hope will not long continue. We have to-day sampled 40 tons of silver-lead ore, for sale on July 10.

EAST VAN.—W. Williams, June 28: Tempest shaft is down 35½ fathoms. The cross cut south from the 25 to come under this shaft is suspended for the present, and the men are removed to resume the driving of the 25, west of Tempest shaft, carrying with them a part of the lode. They have driven 9 ft.; set to four men, at 110s. per fathom. The lode here looks very promising, containing lead in small quantities, and likely to improve. The cross-cut north into the lode is driven 11 ft., and still producing spots of lead and spar, but not sufficient to value; set to four men, at 120s. per fathom.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., June 24: The lode in the 127 is 3 ft. wide, and worth 6/. per fathom. The stope in the back of the 117 is worth 10/. per fathom. No. 2 stope, in the back of the same level, is worth 7/. per fathom. The lode in the 105 east is showing a very kindly appearance, with fine stones of ore. The stope in the back of the 105 is worth 6/. per fathom. The lode in the stope in the back of the 95 is worth 10/. per fathom. The lode in the 82 east is yielding 1 ton of ore per fathom. The lode in the stope in the bottom of the 82 is worth 8/. per fathom. The stope in the back is worth 8/. per fathom. All other points are without change.

GLASGOW CARADON CONSOLS.—W. Taylor, W. J. Taylor, June 27: The 78 east, on south lode, is worth 15/. per fathom; ground favourable. This level west on branch is worth 8/. per fathom. The middle level east is a fine looking lode, worth full 25/. per fathom; ground easy for driving. The winze in bottom of this level is worth 15/. per fathom: we are daily expecting to see this further improve. Harvey's north lode, in the mid-way, east of winze, is worth 5/. per fathom. The rise in the back of the 65 is worth 6/. per fathom; this is to open out tribute ground.—Caunter Lode: This lode in the 72 east is looking a little more promising; the ground, although still hard, appears to be changing, in which we hope to get ore; this is all in new ground, and is important. The stopes and pitches throughout the mine continue to turn out their usual quantities of ore, varying in value from 10/ to 25/. per fathom. This new shaft is now completed full size to the 46, and is in a forward state between that level and the 78; at this work we have 23 men at various points to complete to the 78 for sinking below as early as possible. The computed quantity of ore for next sale will be given in our next report.

GLYN.—J. Rosch, June 28: The ground in engine-shaft has improved for sinking; we shall be in a position to cross cut to the lode on Monday morning, July 3, and from indications I expect to meet with a rich lode of lead. The 15 east is yielding fine stones of lead, but not very regular in produce. The rise above is worth 20/. to 25/. per fathom for lead. The winze under the 15 west, on south part of lode, is still impregnated with ore, and yielding slabs of lead; shall cross-cut through the lode soon. Machinery and all surface work going on satisfactorily.

GOGINAN AND LEVEL NEWYDD.—June 27: The 120, west of the cross-cut, from Bryn Pica shaft, is pushed on with full force, and good progress is being made; the lode is 4 ft. wide, composed of spar, carbonate of lime, and clay-slate, with spots of copper; the ground is favourable for exploring. In the 120, east of western shaft, the part of the lode driven upon latterly has contained good patches of ore, and we are now cross-cutting north to ascertain if there is not a better portion of the lode standing in that direction. In the same level, west of the said shaft, there is a large, strong lode, intermixed throughout with lead and blende ores, which will produce 1¼ ton of the former per fathom. Here we are also cutting in north through the lode to ascertain its full value. In the winze below the 110 fathom level, 80 fathoms west of Bryn Pica shaft, the lode is not all taken down, but the part carried continues a good mixture of ore. Good pregress is being made in sinking the winze below the same level, 35 fathoms west of Bryn Pica shaft, now driven 5½ fathoms; the lode is at present rather soft, but producing good saving work, and we expect it will improve again very shortly. The tribute pitches are without any alteration worthy of remark. At surface we are pushing everything as hard as possible, crushing both night and day, in order to get in all the ore we can before our supply of water is exhausted, which is getting very low in the reservoirs, in consequence of the very dry weather, and unless we have some rain in two or three days we shall be short of water for pumping, drawing, crushing, &c. Every effort will be used to get in as much ore as possible by our next sampling day, on July 11, and providing we are not short of water we shall have about 30 tons of ore ready for market by that date. We shall shortly, if not hindered by a scarcity of surface water, commence preparations for sinking the western shaft below the 120.

GORSEDD AND MERLLYN CONSOLS.—W. Edwards, June 29: The men are making as much progress as the ground will permit in sinking the new shaft, and I am doing all that is possible to get on rapidly. I have no further news to communicate, for, as our shareholders are aware, until the pit is down our great discovery cannot be worked.

GREAT DYLIFFE.—Edward Rogers, June 28: There is nothing of importance to report this week. No lode has been taken down in any of the tribute bargains. We are sampling 36 tons of copper ore to-day, for sale on the 5th proximo.

GREAT LAXEY.—F. Reddicliffe, June 28: The only thing to notice below the 200 in the deep mine is that we have just commenced a new winze in the 220 north of Welsh shaft; it is worth 30/. per fathom. It is not certain that this ground is sufficiently drained of water as yet to allow of the winze being continued down to the depth of the 235, but if so it will facilitate the opening up of the last-named level, and this we wish to do as fast as possible, not only to have the ground available for stoping, but mainly to tap the slide, and thus ensure as far as possible the keeping of the water out of the way of Dumbell's shaft as it (the shaft) goes down. The 200 end is further improved, at present worth fully 100/. per fathom. The stope in the roof of this level is also a little improved, worth 60/. per fathom. The lode in the winze in the 190 is at present nipped very small and comparatively poor, but there is little doubt that it will speedily open again. There is no other change in this part of the mine.—Dumbell's: The shaft continues to be sunk below the 200 at a fair rate, but the lode still keeping to the somewhat more perpendicular line than the shaft is now entirely on one side of it. The 200 end south is worth 40/. per fathom. The end in the same level north is at present worth 80/. per fathom; this improvement is in immediate contact with a small slide, and its continuance is more uncertain on that account. A new stope in the sole of the 185, immediately south of shaft, is worth 65/. per fathom. The stope in the roof, directly over the last-mentioned place, is worked out, and men removed. The winze in the 155 north is on the point of holing to the 17; this winze had opened a considerable quantity, but not of very high-class ground for stoping. The lode in the 140 end south is thrown by a small slide which has just been intersected. Against the slide it is worth 120/. per fathom, but on the other side it is not yet seen. There is nothing else requiring remark underground, and at surface everything is going on steadily and well.

GREAT RETALLACK.—J. Harris, June 24: To-day I set the cross-cut to drive south through the lode, at the 40 fm. level, to two men, at 5/ per fathom for 6 ft., or cut the south wall of the lode. The portion of the lode the end is now in is very hard, composed of white iron and quartz, with stones of blende, but to day the men cut into another seam of the lode in the back of the end, in which we found good stones of blende, mixed with decomposed white iron, saving work for dressing, but there is not enough opened on it for me to place a value, which I hope to do in my next, as it has a most kindly appearance. I also set one pitch at the 20 fm. level, to three men, at 35s. per ton of best blende. We have six other pitches in the mine being worked by 16 men, at 35s. per ton, whose take will be out at our next survey day.

HINGSTON DOWN.—J. Richards, June 29: The lode in the 150 west is 5 ft. wide, composed of capel, quartz, mundic, and peach, with stones of rich quality ore, and is looking altogether more promising. In the 150 west but little has been done, the men having been engaged on other work. The lode is still 3 ft. wide, and produces saving work for black oxide of copper. In Rowe's winze, sinking below the 150 west, the lode is fully 3 ft. wide, composed of quartz, mundic capel, and saving work for copper ore. The lode in the stope in the bottom of the 150 west, and west of Rowe's winze, is worth 4 tons of ore, or 16/. per fathom. In Nicholl's winze, sinking below the 150 west, the lode is 5 ft. wide, and worth for length carried (10ft.) 8 tons, or 44/. per fathom. In the stope in the bottom of the 150 west, and west of Nicholl's winze, the lode is worth 6 tons of ore, or 30/. per fathom. The lode in the stope in the bottom of the 150 west, east of Nicoll's winze, is a good course of ore, and worth 10 tons, or 50/. per fathom. The lode in the three stopes in the back of the 150 west is still worth on an average 5 tons of ore, or 15/. per fathom. In the 140 west driving is still being continued in a northerly direction, and branches of capel are being met with containing a little copper ore. The lode in the stope in the bottom of the 140 west is worth 4 tons of ore, or 12/. per fathom. Two stopes are being worked in the back of the 110 west, the lode being worth 2 tons of ore, or 9/. per fathom, and 5 tons, or 15/. per fathom.

LADYWELL.—A. Waters, June 29: The tributers are going on as usual, getting good wages. We shall next Thursday sample 20 tons lead ore.

LLANRWST.—Robert Knapp, June 28: Sixteen wagons loaded with machinery and pitwork for this mine have arrived at the Llanrwst railway station, and we are busily engaged in unloading them. There are several wagon loads yet to come; the whole amounts to 120 tons. We are getting on as fast as possible with the preparatory work, excavating, quarrying stone, &c., and hope to commence building the engine and crusher-houses shortly. It is satisfactory to state that the whole of the machinery and materials have been purchased for cash and paid for. The mine maintains its value in all respects as reported last week, rather improved than otherwise.

LOVELL (THE).—J. Prisk, E. Kempthorne, June 29: At our monthly setting, which took place on Saturday, June 24, we set the following bargains:—The cross cut to drive south, at the 40 fm. level, east of shaft, by six men, at 14/. per fathom. The 20, to drive west of cross cut, on the south lode, by one man and boy, at 5/. per fathom; the lode here is 5 ft. wide, and improving in appearance very much; we hope to open up a fresh section of tin ground in this direction shortly. The 30, to drive east, on south lode, by six men, at 5/. per fathom; the lode here is disordered by some patches of granite, which occasionally happens in this district. The rise in the back of the 30, on south lode, to four men, to rise a dead stope, at 5/. per fathom; lode 5 ft. wide, worth 15/. per fathom. The stope in the bottom of the 30, east of winze on south lode, to six men, at 5s. 6d. per ton; lode 9 ft. wide, worth 25/. per fathom. The stope in the back of the 40, west of the winze on the south lode, by six men at 5s. 6d. per ton; lode 7 ft. wide, worth 20/. per fathom. The stope in the back of the 40, west of rise on south lode, by six men, at 5s. 6d. per ton; lode 3 ft. wide, worth 20/. per fathom. All the landing and filling in the mine, by four men, at 9/. 10s. All the spalling in the mine, by three men, at 9/. All the carting of tinstuff to the stamps, for one year, at 44. per ton; and all the horse-whim drawing at 4s. per day. The engine at the stamps is working well and doing good duty, but the consumption of coal is pretty heavy; however, when the house is completed and the steam pipes clothed, it will be less.

MEDLYN MOOR.—J. Prisk, Chas. Rowe, June 29: The new air shaft is communicated with the 17 fm. level, which has well ventilated the mine, and opened up some good stoping ground. The engine shaft will in a few days be down to the 27, and we shall shortly be in a position to open out on the several lodes here. All our tutwork bargains are much the same as reported on last, and the prospects in general are exceedingly good. We are preparing to put the pumps to work in the western shaft, on No. 1 south lode, where we shall have a valuable lode to sink in, and will enable us to open this part of the mine with greater dispatch. The pumps and other requisites we have on the mine, and no additional cost will be required.

MONYDD GORDDU.—R. Rowse, June 27: We managed to catch enough water in the pond on Sunday to crush yesterday and to-day at a rather slow rate, and by Saturday I shall have 6 tons of lead and 5 tons of blende clean. I am sorry that I cannot go on faster for want of water, but am doing all I can under the circumstances. In consequence of our catching the water for crushing nothing hardly has been done at the 12 since my last. The miller has taken the water from us to-day. We may catch some again to night, but not enough, I fear, to do much good. I have nothing particularly new in any department to write about this week, but Friday next being the end of the month a fuller report shall be sent week. We have started a winze in the bottom of the adit, west of Rickett's, this morning, in a lode worth 1 ton per fathom, and very promising. You will hear more of this in a post or two.—2 o'clock P.M.: The water is all out of the pond.

NEW CHIVERTON.—James Trewartha, June 29: Setting Report: The engine-shaft is now 2 fms. 1 ft. below the 50, lode worth 7/. per fathom (contract not out). The 50 to drive north, by six men, the month, at 8/. per fathom, lode worth 8/. per fathom. The 50 to drive south, by six men, the month, at 9/. per fathom, lode in end worth 9/. per fathom. The 35 to drive north, by six men, the month, at 9/. per fathom, lode yielding occasional stones of lead; although the lode here is not now producing lead enough to value, there is a real good prospect just before us. About 10 fms. further north the lode we are now working on will form a junction with the new lode recently intersected in the adit, where it is large, and composed principally of gossan, but we do not expect the gossan will reach so far down as the 35, but that a large sparry productive lode will be found there. The 35 south is suspended, and the men put to cross-cut west from the present end to prove whether a part of the lode is standing in that direction or not, by four men, at 7/. per fathom. The adit is suspended for the time, and the men engaged cutting through the lode, which is 15 ft. wide, composed principally of gossan. We have 12 men working six tribute pitches, at 10/. per ton for No. 1 quality lead ores, and 5/. per ton for No. 2 ditto.

NEW CONSOLS.—R. Pryor and Son, Thomas Jenkin, H. Vial, June 22: The stopes and tutwork bargains throughout the mine are without change to notice since our last week's report. They are still looking well, and are yielding splendid work for our process. The Oxland and Hocking's calciners are working most satisfactorily. On Saturday next we hope to connect the arsenic refining works flue with the main flue. On Saturday next we shall commence working the two new Brentons. The men are getting out the foundation for the other chlorodiser as fast as possible, and shall commence to build in a week. We have commenced building the condensing towers, which will be completed in a month from this time. The weather continues fair, and all surface work is progressing satisfactorily.

NEW HENDRA.—R. King, June 26: The lode in the deep adit has been for a few feet disordered since we have passed through the cross branch, but it has again formed itself in its proper direction, and produces some good stones of copper ore. The air is still very good in the end, and the men are making fair progress in their present price.

NEW NORTH POOL.—W. C. Vivian, June 29: I am now up from underground. The appearance of the cross-course in the 25 fully confirms my favourable opinion entertained on just intersecting it. I have to day broken some specimens from the rughe, which are continually being met with in it, composed of spathose, iron, quartz, gossan, and very rich parches of yellow copper ore. The eastern wall has been met with, and in driving north the cross course is about 4 ft. wide; the ground is very favourable for progress, and I think from present appearances we shall advance at the rate of 7 or 8 fms. per month. It is possible, therefore, that we shall cut the lode in less time than was estimated, and appearances are in favour of it being a good one.

NEW SOUTH MERLLYN.—R. Rowlands, June 29: There is no change since last report worthy of note in the 80 yard level south. We continue to get nice lumps of lead in rich yellow clay, and I feel confident we shall shortly meet with good results. In the 100, at No. 4 sump, the vein is 3 ft. wide, composed of a rib of spar 12 in. wide, clay, limestone tumblers, and a rib of lead in the north end 3 in. wide. We are making satisfactory progress. Some of the lumps from below during the present week have weighed ½ cwt.

NORTH LAXEY.—R. Rowe, June 28: The lode in the 84 end driving north is getting larger, now 3 ft. wide, with more quartz and some lead, but not enough yet to value. This end is now far into new and whole ground to surface. The stopes are about the same as last reported, worth from 10 to 15 cwts. of lead per fathom. We are getting on fast with the erection of the engine.

NORTH LAXEY.—Water in shaft, but the 121 is improving for lead, as well as in general appearance. There was also a decided improvement in the 84 north. The forebreast has a fine vein, composed of lead, blende, and spar, the lead being fine, and from the quantity of water issuing therefrom it indicates open ground, so they may run into a fresh run of ore. This part of the mine is wholesome to surface.

NORTH TRESKERBY.—R. Pryor, June 28: Setting Report: On Saturday last we set the following bargains:—Doctor's Engine-Shaft: A winze to sink from the bottom of the shallow adit level, east of shaft, by four men, at 6/. per fm.; lode worth 9/. 10s. for copper ore.—Highburrow: To stope the bottom of the 30, east of shaft, by six men, at 4/. per fathom; lode worth 28/. per fathom for tin. To stope the bottom of this level, west of shaft, by six men, at 4/. per fathom; lode worth 17/. per fathom for tin.

OLD TREBURGETT.—W. Hancock, W. T. Bryant, June 28: In the 90, south of the shaft, we are stripping down the west part of the lode, so far as can be seen it is worth about 8/. per fathom. In the 80 south the lode is still large, worth 13/. per fathom. No. 4 winze, under the 70, is down 9 fms. 2 ft.; the lode for the last 3 or 4 ft. in sinking has not been so productive, present bottom worth about 20/. per fathom; owing to so much water to contend with we have to day decided to commence driving north towards the 80 end; this will be a capital lode, worth 30/. per fathom. No change elsewhere calling for any remark. No. 1 boiler is cleaned, repaired, and at work again. We sampled to-day a parcel computed 33 tons of first quality ores, for sale to-morrow week.

PARYS MOUNTAIN.—T. Mitchell, June 26: The 90 cross-cut south, by six men, the month, at 11/. per fathom; the ground in the forebreast is jointy, and letting out water pretty freely, but we passed through a small string of good copper ore a few days ago, and the ground has a kindly appearance. The 90, east of engine-shaft, continues to yield good patches of copper ore and sulphur, but we are not yet far enough in to catch the run of ore ground seen in the 80 dipping in this direction; set to four men, at 9/. per fathom. The stopes in bottom of the intermediate level, by six men, at 6/. per fathom, worth 4 tons of copper ore and 2 tons of sulphur per fathom. A stope in this level, by two men, at 6/. 10s. per fathom, worth 3 tons copper ore and 1 ton of sulphur per fathom. The stopes in the 80, by eight men, at 8/. per fathom, worth 4 tons of copper ore and 2 tons of sulphur per fathom. To rise and stope in the back of the 65, by six men, at 8/. per fathom, worth 4 tons of copper ore and 1 ton sulphur per fathom. To rise in the back of the 65, east of the cross course, by six men, at 8/. per fathom, worth 3 tons of copper and 1 ton of sulphur per fathom; our object for rising at this point is to ventilate the workings, and make it more convenient for removing the stuff after getting a hole through to the workings above. The stopes in bottom of the 45, east of winze, and behind the 45 east end, by six men, at 6/. per fathom; the lode is wide, and now yielding 5 tons of copper ore and 2 tons of sulphur per fathom. The 45 fathom level to drive east, by six men, at 11/. per fathom, and producing at present 5 tons of copper ore and 2 tons of sulphur per fathom; you will see we have put two more men here in order to open up this ground as fast as possible. The 45 to drive west from the old cross-cut, by six men, at 11/. per fathom; lode worth 4 tons copper ore and 2 tons sulphur per fathom. This is the point where we have recently come upon some copper by working a trial near the old workings. We have plenty of unwrought ground here, and hope it will turn out well. The trial cross cut north at the 30, by two men, at 4/. 15s. per fathom. We have re-let 11 tribute pitches to 16 men at the usual prices.

PATELEY BRIDGE.—C. Williams, June 29: The lumb vein going east in the south cross-cut, in the 10, is widening out and improving, being at present 6 ft. in width, consisting of barytes, gossan, and lead ore; worth for the latter about 14/. per fathom; a fine looking vein, and the ground is speedy for progress. Fielding's vein, going north west in the east cross cut in the 20, maintains its size and value, being 18 inches in width, and producing 1 ton of lead ore per fathom. I hope in the course of the coming month to reach the rich course of ore that went down in Fielding's sump in advance of this forebreast. This vein in the roof over this drivage is 3 ft. wide, and producing 25 cwts. of lead ore per fathom. The same vein, going south east, has improved, being 2 ft. in width, and producing 15 cwts. of lead ore per fathom, and likely to further improve. The sinking of the engine-shaft is being proceeded with all possible dispatch. We have had a slight accident to the spindle of our spinking lift yesterday, but it was repaired last night; with that exception good progress has been made. Pringap vein is 8 ft. in width, consisting of quartz, gossan, barytes, and patches of lead ore, and if I am not greatly mistaken a change for the better is near at hand, indeed the indications are most favourable for a rich course of ore.—Gilfield Level: We have decided upon sinking another 2 fathoms on the shaft under this level, as the vein appears to be making richer as depth is attained. The vein in the bottom and along the drivage is from 5 to 6 ft. in width, composed of gossan, carbonate of lead, and carrying a leader on the south wall from 9 to 12 inches thick, one half of which is good solid metal. The vein in the stope over this level will produce 1 ton of lead ore per fathom.

PEDN-AN-DREA.—W. Tregay, June 24: There is no particular change to record in the value of the points of operation since last report.

PENNANT BARYTES.—J. Kemp, June 29: In the 40 yard level, east of the engine-shaft, I have two men working on the sulphate of barytes, mixed with which are good stones of lead ore—a very promising lode. We are busy clearing the 60 yard level east, with a view of continuing the level up to the junction of the various veins, which we shall, no doubt, find productive. The cross cut in the 80 east is through the lode, but the water continues to come out stronger from it, which induces me to believe that there must be another lode standing to the south; I have, therefore, put the men to drive on to see the result, and this morning they broke into a joint or vein, which, however, I cannot say much about at present. The vein we are driving upon, I am pleased to say, shows improvement, both in production of carbonate and lead. Between the 60 and the 80 we are producing a great quantity of carbonate, with some fine lumps of lead, and I expect this we are of the ground to turn out well. We are delayed in proceeding with the 80 west in consequence of being full of stuff, but immediately the engine is ready for winding we can proceed. Our surface work is going on very well indeed, and we shall set aside on Saturday to employ some of the hands that were upon the tramway slow, and so have a large quantity of stuff broken ready for the crushing machinery.

PENNERLEY.—W. T. Harris, J. Delbridge, June 27: The lode in the 18 east is improving in character, and containing good stones of ore, to all appearance entering the same run of ore discovered in the level above. The 120 east is producing no lead to value. The stope in back of this level is worth 2 tons of lead ore per fathom. In this level west the lode is yielding 10 cwts. of lead per fathom, and promising for an improvement. The stope in the back of this level is worth 1½ ton of lead ore per fathom. The lode in the winze sinking below this level is worth 4 tons of lead ore per fathom. The lode in the 100 east is producing good stones of lead. The lode in the 80 west is 1½ ft. wide, producing saving work. In the stope in bottom of the 7 the lode is producing 2 tons of lead ore per fathom.—Potter's Pit: At the 90 we have intersected the north lode, and are now driving west on its course—a very promising lode, and yielding good stones of lead ore, and hope to communicate with the winze sunk below the 75 by the end of this week. The lode in the winze sinking below the 75 west is worth 4 tons of lead ore per fathom. The 65 drivage west is yielding 1 ton of lead ore per fathom. In the 35 east the lode is 3 ft. wide, worth ½ ton of lead ore per fathom. All other points are yielding lead in quantities quite equal to last report, and fair progress is being made.

PENSTRUTHAL.—William Teague, June 26: The fixing of the lift and other arrangements necessary for the continuous sinking of the Highburrow shaft under the 58 are completed, and sinking resumed. The lode in the shaft is highly impregnated with copper, and I have no doubt but that an early improvement will take place, as the lode shows every indication of it. In the 58, driving east of shaft, the lode is much improved since my last, being now worth for copper ore 15/. per fathom; a most promising looking lode. In the 58, driving west of shaft, the lode is not quite so rich as it has been during the month, being now worth for copper ore 10/. per fathom; it has been worth fully 15/. per fathom. In the 46, driving east of shaft, the lode is rather more for copper ore 8/. per fathom; a very kindly lode, with indications for further improvement. In the 46, driving west of shaft, the lode is rather spare for copper, and is not producing much mineral at present. In the 46, driving east of shaft, on the tin lode, the lode is worth for tin 8/. per fathom. In the winze sinking under the 34, east of shaft, the lode is worth for tin 8/. per fathom. In the 34, driving east of shaft, the lode is worth for tin 5/. per fathom. In the 34, driving west of shaft, the lode is worth for tin 4/ per fathom. The prospects of our mine are much improved for copper ore, and will continue further to improve. I have not the least doubt that at the next copper sale we shall sell fully 200/. worth of copper ore, with every probability of sampling bi-monthly. Our tin sales will not be so good, as the lode in the bottom levels is chiefly of copper-bearing stuff.

PRINCE OF WALES.—J. Andrews, J. Pryor, June 28: We have taken the men from the 77 cross-cut north and put them to drive south, believing the main part of the lode to be in that direction. We are pleased to say the lode in the 58 west is further improved, and is now 3 ft. wide, and worth 25/. per fathom. The lode in the 45 west is 4 ft wide, carrying a leader of rich ore on the south part worth 5/. per fathom.

PRINCE OF WALES.—J. Andrews, June 29: There is no change in the mine since I wrote you yesterday. Every point remains of the same value, and looking very encouraging indeed.

ROMAN GRAVELS.—A. Waters, June 29: The 95, north of old shaft, is worth 3 tons. The 95 south is worth 3 tons per fathom. The 95, north of new engine-shaft, is worth 3 tons per fathom. The 80, south of Wilk's winze, south of new shaft, is worth 8 tons per fathom. The 65, south of Stokes' winze, south of new shaft, is worth 5 tons per fathom. The stopes throughout the mine are yielding their usual quantities of ore. Our sampling next week will be 220 tons lead ore.

ROOKHOPE (Lead).—James Blenkiron, June 28: The 26th was on setting day at the above mines, when the men were placed as follows:—Two men in the back of top level, stoping at 26s. per fathom; worth 10 cwts. of ore per fathom. Four men in the sole of adit, to drain off some water tapped in said level, which is making its way into ground unstoped below, and would do considerable damage if not stopped. Let the same at 20s. per fathom; size carried, 5 ft. by 3 ft. Adit forehead discontinued east until this is completed, which will take about two weeks. Adit standing worth 2 tons of ore per fathom; we shall resume driving the same when the above is completed. Four men stoping in the back of the 15, at 30s per fathom; worth 15 cwts. of ore. Four men stoping in the back of the 15, at 25s. per fathom; worth 20 cwts. of ore per fathom. Four men stoping, in the back of the 25, at 21s. per fathom; yielding 16 cwts. of ore per fathom. Two men opening out in the back of the 25, at 35s. per fathom; worth 12 cwts. of ore, the size carried being 6 ft. by 4 ft. Nine men opening and clearing the 42; we have not contracted those men, as the ground is run up or broken several fathoms in height. We cannot put a proper estimate upon it. We expect daily to come into open ground. All the stuff broken down will pay well for dressing. We are within about 10 fms. of the forebreast, and expect several fathoms of the level to be open near the end. This level has been much worse to open than we anticipated. The general appearance of the workings are encouraging for ore. We have had considerable trouble

with the stone pillar, or shaft-top, on which the beam for pumping was fixed. It was all giving way. The foundation and wall had all been built of rubbled stones, and was like falling into the shaft. Pumping was stopped most of last week to repair the same, which necessarily caused the 42 to stand; it is now made secure and good. I should like, with your consent, to put the guides and cage in drawing-shaft. It will cost in material and labour about 50*l.*, and will pay in less than six months. We shall not be able to dress much ore this month, as it will take us a week to connect the small engine for winding, and complete repairing engine, &c. It is essentially necessary to fix winding gear to the small engine, the portable engine being much out of repair. Our engineer was with me at the mine on Monday day, and will do the work forthwith. In the meantime we shall draw all we can to keep the workings going and dressing floors as much employed as possible. When we get the cage into the shaft and the alterations made with the winding engine, which, I trust, will be within a month, we shall be able to bring a considerably larger quantity of ore stuff to the bank. I have engaged an experienced ore dresser, who, I trust, will be of great service to us. He will be on the mine in two weeks, having had to give notice to leave his present employers. Water is now very scarce, and crushing and jigging will mostly have to be done with steam. Brown has manage l the critical work at the pit-head very skilfully. I will forward the cost-sheet on Monday or Tuesday next, all being well.

SAINT PATRICK.—Wm. Francis, June 28: The 120 yards cross-cut north progresses satisfactorily, but without material alteration since last report. The 90 north continues with the cross course still rather pinched. Good progress is being made as the deads are deposited in the great cavern. The 60 north in the chert continues to show very fine indications. I am in constant expectation of having important news to communicate.

SOUTH CONDURROW.—W. Rich, W. Williams, H. Abraham, June 27: The lode in the new shaft sinking below the 30 yields a little tin. The rise in the back of the 50, towards the great lode, is yielding low-quality tinstone. The 60 east is worth the 50 east, on the great lode, is yielding low-quality tinstone. The winze in the bottom of 8*l.* per fathom. The 60 west is worth 20*l.* per fathom. The 70 west is poor. The 82 west is worth 7*l.* per fathom. The cross-course winze, in the 82 east, is worth 10*l.* per per fathom. The rise in the back of the 93, towards the winze referred to, is worth 10*l.* per fathom. The 93 east is worth 8*l.* per fathom. The 93 west is worth 10*l.* per fathom. We have holed the adit level to Williams's shaft, and shall make the level secure, and fix launders to convey the water to the engine shaft.

SOUTH DARREN.—J. Boundy, W. H. Boundy, June 24: Setting Report: The engine shaft to sink below the 90, by nine men, at 22*l.* per fathom; the sinking of the shaft has been a good deal impeded in the past month, owing to our short supply of surface water; present depth below the 90 fm. level 2 fathoms. The 90 end to drive by six men, at 12*l.* per fathom; in consequence of the end being full of stuff no lode has been taken down for some time past, but we hope to take it down soon; last value, 20*l.* per fathom. To stope the back over the 90, west from the shaft, by four men, at 85s. per fathom; the lode is 2 ft. wide, worth for lead and copper 14*l.* per fathom. To stope the back over the 90 west, by four men, at 85s. per fathom; the lode is 2½ ft. wide, worth for lead and copper 14*l.* per fm. To stope the back over the 90, west from ditto, by six men, at 85s. per fathom; the lo le is 2½ ft. wide, worth for lead and copper 15*l.* per fathom. Fair progress has been made in sinking the winze below the 90; present depth, 5 fms. 1 ft. The 80 to drive west, by six men, at 12*l.* per fathom; the lode is 3 ft. wide, of a most promising character, worth for lead and copper 20*l.* per fathom, and presenting a very favourable appearance for further improvement. To stope the back over the 80 west, by four men, at 80*l.* per fathom; the lode is 2 ft. wide, worth 14*l.* per fathom. To stope the back over the 80, west from ditto, by four men, at 80s. per fathom; the lode is 2½ ft. wide, worth 10*l.* per fathom. Good progress is being made in sinking the winze below the 80; present depth, 5 fms. 6 in. The 70 to drive west, by four men, at 10*l.* 10s. per fathom; the lode here for the present is rather disordered by so ne cross branches, now producing saving work. The winze sinking below the 70 is now down 1 fm. 5 ft. The three winzes sinking (under contract) are going down by the side of the lode for dispatch. To stope the back over the 70 west, by four men, at 80s. per fathom; the lode is 2½ ft. wide, worth 11*l.* per fathom. We regret to say from the continual drought our surface water is fast falling off, however we are doing the best we possibly can.

SOUTH ROMAN GRAVELS.—J. W. Powning, June 29: We are making progress with the new 10-in. plunger, and shall have the main rods connected and ready for work by Saturday; after which we shall draw up the 7½-in. drawing lift, and start the sinking of the shaft.

SOUTH TOLCARNE.—Joseph Vivian and Son, James Paull, June 29: At the 80 the cross-cut has been extended 2½ fms. north of the engine shaft towards Fraser's lode, and the rock continues favourable for progress, the present price for driving being 7*l.* 10s. per fathom.—Fraser's Lode: In the 40, east of engine shaft cross-cut, the lode is 4 ft. wide, and tinny, but does not contain sufficient tin to admit of its being valued. We have placed the men to stope the back at 1*l.* 10s. per fathom, and is. in 1*l.* tribute, the lode being worth about 7*l.* 10s. per fathom. In the 40 west the lode is 3½ ft. wide, presenting a very kindly appearance, and producing tin throughout. In the stope in the back of the 40, east of Heathorne's winze, the lode is 2½ ft. wide, and worth about 12*l.* per fathom; price for stoping 1*l.* 5s. per fathom, and 1s. in 1*l.* tribute.

SUNNYSIDE.—G. Henwood, June 24: Everything progresses satisfactorily. The stopes in Whitfield's rise yield their usual quantities of ore; we have been somewhat impeded in our dressing by thunderstorms, but have to-day washed off and put to pile 12 cwts. of best lead ore. We have painted the machinery now we have completed necessary alterations. The end towards the Harehope Gill lode has been driven 58 feet. We now use dynamite in the stopes instead of powder, it being cheaper.

TALYBONT.—Thos. Glanville, June 29: I have this day sampled for sale another parcel of upwards of 10 tons of ore. I have much satisfaction in stating that as our operations proceed I am more and more convinced of the great success awaiting us.—No. 1, or New Lode: Since my last report there has been no change in this lode of sufficient importance to notify. The 12 fm. level, west from shaft, is driven 10 fms., and we are making progress with the intermediate or 20 fm. level. I have before fully explained my views as to the course to be pursued in relation to this part of the mine.—No. 2, or Grey Ore Lode: This portion of the mine at the present shallow depth is very rich, the lo te being worth 20*l.* per fathom. The shaft is down only 9 fms., the bottom of which is extended 8 fms. The operations on No. 2 lode have exceeded my expectations, and even if the sett contained no other lode I should consider it a valuable mineral property. A cross cut is now being driven to cut No. lode at a depth of at least 10 fms. below our present workings.—North and South Lode: The old shallow workings on this lode produced many thousand pounds worth of ore, and I feel certain that a few hundred pounds expended in driving a level from the River Lory 70 fms. below the deepest old workings would be most remuneratively employed. I would most earnestly press this point on your consideration, as I feel certain that not only should we find the junction of this lode with the east and west lodes, already worked upon, but the driving would meet with many lodes of silver lead as yet unworked upon, although discernible in our deep adit level. At the junction of this lode with the old lode I doubt not we should meet with another vast deposit of ore, as those extracted many years ago. The Talybont is one of the oldest mines in the Kingdom. Not only was it worked by the Romans, but it was worked in the pre-Romanite period, as proved by the ancient stone instruments found some years since on the property. I often marvel how, with such primitive instruments, such vast quantities of ore were extracted; I certainly consider the fact redounds to the ability of the ancient miners, whose great difficulty seems to have been the water, which prevented their carrying out any deep operations. Doubtless they were aware of there being immense quantities of ore below, which in their time it was impossible to reach, and which as regards the Talybont Mine, has been reserved for the present generation. I, therefore, beg you to follow my suggestion, and I have no fear of the result.

TANKERVILLE.—A. Waters, June 29: The engine shaft sinking below the 15 fm. level is down 4 fms.; ground favourable. The winze sinking below the 15, 17 fms. west of shaft, is going down in a lode worth 10 tons per fathom. The stopes and other points yielding ore as for some time past.

TEMPLE.—June 23: The lode in Pryce's level continues to improve, the leader of ben te, spar, &c., showing considerably more lead, and I am in great hopes of reporting a good course of that ore in a short time, and thus placing its value beyond dispute.

TREBEIGH CONSOLS.—John Clifford, June 29: We have set the engine shaft to sink at 12*l.* per fathom, stent the month. We finished taking the engine out of the house on Thursday last. The cylinder is on the mine, and a great portion of the gear and steam pipes. We began to take out the boiler to-day, and the bob is up on the hill on blocks of wood all ready for loading, which I hope will be done to-morrow. The roofs of both the engine and boiler-houses are taken off, and one load of slate taken to the mine to day, and we hope to begin putting in the engine in the new house in the early part of next week.

TREBEIGH WOOD.—E. Hosking, W. Goldsworthy, June 27: There is no change to notice in the mine since last report. Friday being our pay and setting day, a full report shall follow.

VAN CONSOLS.—J. Roach, June 26: Murray's shaft is still being cut down with the utmost dispatch, and good progress making. The 40, west of Murray's, and the stope in the roof of the 25, without material alteration since my last advice. All other workings, dressing of lead, &c., going on favourably.

VAUGHAN.—June 27: In the engine-shaft, sinking under the 32, the ground continues favourable for sinking, being composed of a blue clay slate, branches of carbonate of lime, containing spots of lead and blende. In the deep level east, there is no change in the character of the lode since last reported on. Our pumping-weed and pitwork are in working order.

WEST COMBMARTIN.—John Treweek, June 28: Since writing my last report the orchard lode has greatly improved: it now has a large quantity of carbonate of lime, mixed with flookan, spar, and copper, with silver lead ore thickly interspersed—a very kindly lode indeed. As I said in my last, the only thing required here to have a rich mine is to see the lode at a deep-r level.

WEST GODOLPHIN.—John Pope, June 23: Setting Report: Caunter: The 60 sinking in Pressure shaft, to nine men, at 35*l.* per fathom; the lode is 2 feet wide, worth 10*l.* per fathom for tin for the length of the shaft. The 60 to drive north, by two men, at 6*l.* per fathom for tin.—Wilson's: The 60 to drive west, by six men, at 7*l.* 10s. per fathom; the lode is 2 ft. 6 in. wide, worth 6*l.* per fathom for tin. The 60 to drive east, by four men, at 6*l.* per fathom; the lode is 4 ft. wide, worth 7*l.* per fathom for tin. Th 60 west to drive by six men, at 6*l.* per fathom; the lode is 4 ft. 6 in. wide, worth 10*l.* per fathom for tin. The 50 to drive east, by four men, at 5*l.* per fathom; the lode is 2 ft. 6 in. wide, worth 5*l.* per fathom for tin. The 50 to stope back west, by four men, at 3*l.* per fathom; the lode is 4 ft. wide, worth 10*l.* per fathom for tin and copper.—Caunter: The 50 to drive north, by two men, at 6*l.* per fathom; the lode is 1 ft. 3 in. wide, low-price tinstuff.—Wilson's: The 40 winze to sink west, by four men, at 4*l.* per fathom; the lode is 1 ft. 8 in. wide, worth 8*l.* per fathom for tin. I calculate this winze will communicate with the 50 this week, when I purpose putting these men to sink a winze in the 50 west. The 40 to stope east, by six men, at 3*l.* per fathom; the lode is 5 ft. wide, worth 7*l.* per fathom for tin. The 40 to stope east, by six men, at 3*l.* per fathom; the lode is 2 ft. 6 in. wide, worth 5*l.* per fathom for tin. The 30 to stope east, by two men, at 1*l.* 15s. per fathom; the lode is 2 ft. 6 in. wide, worth 4*l.* per fathom for tin. The 10 to sink in Boulton's shaft, by six men and one boy, at 6*l.* per fathom; the lode is small. The middle adit to drive west, by four men, at 3*l.* per fathom; the lode is small. To surface sinking at Gladstone's shaft, by six men, at 6*l.* per fm.; lode is small.—Caunter: The 60 to stope south, by two men, at 10s. in 1*l.*; the lode is 2 ft. 6 in. wide, worth 5*l.* per fathom for tin.—Flak: The 50 to stope west by two men, at 10s. in 1*l.*; the lode is 1 ft. 3 in. wide, worth 5*l.* per fathom for tin, at a standard of 42*l.* per ton for the tin. We have two men stripping the side of the 60 west, on Wilson's lode, and two men stripping the sides of the same level east, and two men putting in stull and timber in the different levels, and laying down iron rails in the 50 and 60. The plunger that we fixed at the 80, in Pressure shaft is working well, so I am hoping we shall now be able to keep the water out of the bottom of the mine comfortably. We are pushing on with the erection of the steam stamps as fast as possible, but in consequence of having so much smiths' work to do for fixing the pole we have not been able to make so good progress as I had anticipated.

WEST GREAT WORK.—S. J. Reed, June 29: The Godolphin lode in the 10, west of Duke's shaft, is worth 7*l.* per fathom; the ground here has changed favourably in the course of the past week, and the lode is now more congenial for producing tin in paying quantities. In the rise and stope behind the end the lode is worth 4*l.* per fathom. In the drivage east the lode produces good stones of tin, and being now clear of the elvan we may look for an improvement. The cross-cut in the intermediate level, towards this lode, progresses more favourably, and I have no doubt the lode will be intersected by the time named.

WEST MILWR.—William Francis, June 28: In driving the 70 yard cross-cut south a strong joint or feeder has just been cut, running in the direction of a main lode, composed of clear white spar, fu ly 1 in. wide, and cutting clean through all the beds. I am inclined to think we shall soon have the Milwr lode, and as the joint is of so congenial a character, followed by partings, in which a little lead ore has been seen, there is every reason to hope for a good discovery of ore when this lode is intersected.

WEST PATELEY BRIDGE.—D. Williams, June 30: In new level from the joint adit level I am pleased to inform you this week we got solid stones of ore in the gossan part of the lode, the other portion being intermixed with spots of ore throughout. No other change to notice in any part of the mine to-day.

WEST TANKERVILLE.—A. Waters, June 29: The 75, driving south of boundary shaft, is worth 1 ton of lead ore per fathom, and improving. The 63, south of shaft, is worth 4 tons lead ore per fathom. The stopes are yielding ore in quantities varying from 1½ to 3 tons per fathom. The mine is steadily improving, and our sampling on Thursday next will be 30 tons of lead ore.

WHEAL CREBOR.—J. Andrews, June 27: The ground in the 120 cross-cut south continues spare for driving. The lode in the 108 east is 2 ft. wide, yielding a little copper ore, but nothing to value. There is no change in the 72 east. In the 48 east we are driving by the side of the lode. The two stopes in back of the 48 are worth respectively 30*l.* and 25*l.* per fathom.

WHEAL GRENVILLE.—T. Hodge, June 27: Western Shaft: The big shieve that breaks the angle at the 45 broke on Sunday night, which caused the water to rise 6 ft. above the 160. The lode in the 150 east end is worth 11*l.* per fathom. The lode in the 130 east end is worth 7*l.* per fathom.—North Shaft: In the 140 north cross-cut we are into the lode 5 ft., and it is worth for tin so far as seen 12*l.* per fathom—a very fine-looking lode. No other change. The stopes generally are looking much as usual. We have fixed the new axle and woodwork for the sixteen heads of stamps, and set them to work yesterday morning, and they give entire satisfaction.

WHEAL KITTY (St. Agnes).—S. Davey, R. Harris, June 24: We have no change in any part of the mine worthy of especial remark, as the men generally are dressing the lode.

WHEAL UNY.—W. Rich, M. Rogers, Wm. Bennetts, June 24: We have communicated the winze in the bottom of the 150, west of engine shaft, with the 160, which has given good ventilation. The 150, west of incline shaft, is worth 10*l.* per fm. The 150, east of Goodinge's, carries a little tin. The 140, east of King's, is worth 9*l.* per fathom. The 120 east is worth 10*l.* per fathom. A rise in the back of this level is worth 10*l.* per fathom. The 110 east is worth 8*l.* per fathom. The winze in the bottom of this level is worth 8*l.* per fathom. We have sold to-day 12 tons 16 cwts. 3 qrs. 5 lbs. of tin.

THE VAN MINES—MONTHLY REPORT.

June 28.—The 105 has been driven west by the side of the lode 9 fms. At a point 5 fms. west of shaft we cut into the lode; and, as far as seen, it was worth 80*l.* per cubic fathom for lead ore. After a few fathoms more driving we shall cross-cut thoroughly through the lode. The 90, west of shaft, is worth 40*l.* per cubic fathom. The stripping of the lode to the full width in the side of this level, at a point about 20 fms. west of shaft, is worth for lead ore 32*l.* per cubic fathom. The 90, east of shaft, is worth 15*l.* per cubic fathom. The 75, west of shaft, is worth 4½*l.* per cubic fathom. The same level, driving westward from the 90 cross-cut, is worth 70*l.* per cubic fathom—driving upon the main leader. The 75, driving in the soft, west of the 90 cross-cut, now measures 102 fms. west of engine shaft. The stripping of the lode to the full width in the side of this level, at a point 75 fms. west of shaft, is worth for lead ore 65*l.* per cubic fathom. The same, at a point 60 fms. west of shaft, is worth 30*l.* per cubic fathom. The stopes in back of this level, west of shaft, four in number, are on an average 16 ft. wide, worth 33*l.* per cubic fathom. The 120 winze, in bottom of the 60, west of shaft, is down 3 fms. The 60, east of shaft, is still pushed forward by the side of the lode, with four men. The stopes in back of the 60, 13 in number, are on an average 15 ft. wide, worth for lead ore 27*l.* per cubic fathom. The stopes in back of the 45, east and west of shaft, eight in number, are worth on the average 24*l.* 10s. per cubic fathom—average width, 16 ft. The permanent levels are pushed forward as usual. We have this month commenced to sink the winze to ventilate the 90, at a point 65 fms. west of shaft, in the side of the 75.—Surface: All surface work is pushed on regularly. Our four-weekly sale takes place to-morrow, upon 500 tons of lead ore and 200 tons of blende.—WM. WILLIAMS.

TEESDALE MINE—AGENT'S YEARLY REPORT.

June 22.—North End Workings: During this last year much work has been done here, both by contract and wages. The level has been driven 4 fms. 1 ft., and a rise put up 4 fms. by contract. The ground to north of rise had been worked by former workers below the 4 fm. drift, and these workings were standing full of water; the ground was not in a good state for working by contract, so a good deal of the vein has been stoped out by wages, and a good deal of heavy timber put in to make the workings safe and to put the place into proper working order. We have a good quantity of bouse in here which was got by the surfacemen at times during winter when they were prevented from working outside by frost and snow. We have as much payable ground laid open and to see at these workings as will take us 18 months to work out with all the hands that we can get to them. At one of the workings we are stoping out Teesdale vein, off by the south cheek of Cowrake east and west vein, so that by-and bye we shall open out workings in this vein also.

Holmes' Level South: We started to clear this level out last October; 30 fms. of the old level were cleared out and laid with iron rails, and the level has been pushed on (in the vein) 14 fms. 4 ft. The place is now well ventilated, and worked by four men. We have 2 fms. thick of ground between the old workings and the water-mark in Holmes' level. The vein as working at present is worth about 10 cwts. of lead ore per fathom; the cost of taking out the vein will be 6*l.* 7s. per fathom. The level has hold of the sandy limestone on the east side of the vein. I expect a few more fathoms will get hold of the west cheek of the vein, when we may confidently expect more produce from the vein, as we should then have the limestone on both sides of the vein.

Hopkins' Level: During this last year this level has been driven 47 fathoms, and a rise put up for ventilation 4 fathoms; the rise has gone through 3 fathoms of plate and 1 fathom of hazel. I expected we should have met with sound limestone here, but as yet only limestone boulders, clay, and sand. The ground is so much broken up and confused by an intersection of veins that we have near the vein took a hitch off to the south side of the rise at the top of the plate; the men are now cutting a drift to that side to prove the vein. They have cut through 2 ft. 9 in. of vein in the hazel, composed of heavy spar and spots of lead ore. They cut some more veinstuff yesterday still further south; there is a part of the vein in the plate worth 8 cwts. of lead ore per fathom. As soon as we get the place ventilated I should recommend a drift being started, as I think it will pay, and might soon lead to something better; the ground is soft, and would drive at a small cost.—Surface Operations: A large reservoir was started with last summer, and is now about three parts finished; 1059 cubic yards of stiff clayey ground was excavated by contract, and about 400 yards by wages. Inside of the breastwork, so far as made, is lined with mason work. A bouse team has been built, and an extensive dressing floor and wagon-way from Hopkins's level to the dressing-floor made. Much work has lately been done in cutting out and tunnelling the tail race for the crushing mill wheel, and cutting out wheel case; the ground is a stiff clay, and heavy to cut. Also in opening out a valuable new quarry of stone, suitable for the foundations of machinery now erecting.

Road: 100 yards of new road have been made west of old lodging shop, and we have broken the top cover of limestone on the road (all the way from Harwood Beck to mine) over again, and covered a part of it with refuse from the waste heaps, to a depth of 6 in., which has made a good substantial job of it.—Prospects of the Mine, and Lead Ore: I consider the prospects of the mine, as a whole, good and encouraging. We will soon be able to employ a good number of men to raise lead ore at a profit. We have now a good staff of boys working at our dressing-floors, and will be able to have another lot of 20 tons of lead ore ready for market in three weeks time, and then follow with another lot of 20 tons two months after that. We will then have a lot of stuff ready for the crushing-mill, and I hope the machinery will be ready for work by that time. We are now sending the bouse down the whim-shaft, and bringing it out by Holmes's level to the dressing-floor. By the time that we get this done we shall have all ready for bringing our stock of bouse out of the north end workings. I think that we may safely calculate on getting 100 tons of lead ore into market before there will be any risk of our dressing operations being interfered with by frost or snow. By the experience that we are now gaining by our dressing operations I see that particular attention will have to be paid to have extensive catch-pits made in connection with our crushing-mill, to catch and save the slime ore, and one of the best and most approved buddles for dressing sludge and slime ore.

There is a heavy expense on the mine just now, which cannot be well avoided—that is, if you wish the mine and all its connections put into proper working order; but I have every confidence that the mine will ultimately repay you for all outlay, and be a profitable mine for years to come.

T. WATSON.

FOREIGN MINES.

EBERHARDT AND AURORA.—The directors have declared a dividend of 5s. per share, payable on July 10, and have received 48 bars of silver, valued at about 10,000*l.*, on account of the produce for May.

RICHMOND CONSOLIDATED.—Cablegram from the mine at Eureka, Nevada—Hall, London: Week's run, 850,000.

— R. Rickard, June 8: The shaft is down 65 ft. below the 800 level. The 800 drift is extended 110 ft. from shaft during the past week; we struck ore in this drift. We drove through 12 ft. of ore of very fair quality, when we again got into limestone; the ground is more favourable for driving than it was. The ore we went through in the 600 drift is to all appearance the continuation downwards of the small body we had in the 700 level; it is much larger in the 800, and shows indications of going down and making something of value. We intend opening on it and sinking to ascertain its value in depth. There is no material change in the stope in the 700 level. No. 1 stope in back of the 600 is looking very well. There has not been much work done in No. 2 stope in back of the 600 during the past week. The contract in back of the 500 is turning out good ore. Lizette tunnel extension is still in ledge matter and limestone, and looks promising. The three furnaces are in good working order, and smelting an average quantity of ore.

TOLIMA.—The estimated value of the April returns is 8693*l.*, obtained at a cost of 3812*l.*, thus showing a gross profit of 871*l.*, equal to 124*l.*

CHICAGO (Silver).—Telegram from the superintendent at the mine—I have remitted you by draft 250*l.* sterling.

GOLD RUN.—J. A. Stone, June 10: My last letter to you was dated 28th ult., since which time the mine has been running with the usual good success, except about three days. A large mass of gravel came down in the ground sluice, near the head of the incline, and came near filling it; and my men, in their hurry to shut off the water from the pipe, and prevent it from accumulating above the cave, turned it off so suddenly that it caused it to collapse 75 ft. of the main pipe below the water-boxes. I at once substituted good pipe for that damaged, and again commenced washing, with but little water going down the incline, but chiefly down the shaft; in this way I slowly washed the cave away without serious damage. I now have 17 days' run made, but shall not clean up until the Miners' Ditch Company do, which I think will be in about six or eight days. Since my last I have measured the bank of gravel where I am now washing, and found it to be 150 ft. in height. The shaft was located in a low place, and from the "Li tle Giant" to the ground sluice at the head of incline it is about 50 ft., and from head of incline to bed-rock about 50 ft. more, making the depth of gravel where I am now washing 250 ft. Everything is progressing satisfactorily now, and I think it will so continue.

BLUE TENT CONSOLIDATED HYDRAULIC (Gold).—Thomas Price, June 3: During the whole of last week everything went along very successfully at the mines and ditch. The ditch now gives us nearly 1000 in. of water. At Enterprise Mine we have now nearly doubled the force, by putting on a night shift, so as to avoid wasting any water, as our reservoirs have not capacity to hold the full stream with safety. At Blue Lead Mine we have nearly finished the powder-drift, and shall probably set off the blast the latter part of next week. Everything goes on as usual at South Yuba Mine. We intend to clean up there during the coming week. Have started a new powder-drift for a big blast, which, if it be successful, will give us an abundance of gravel to wash, after it is set off. This drift is pushed forward with all the force that can conveniently work at it; and we are aiming, and think it possible, that this blast will give us an opening into the old Johnson claim.

EXCHEQUER.—Lewis Chalmers, June 5: The excavation for the O'Hara furnace is about half completed. Having only two men (more would not work to advantage), it will take me most of this week to finish. I have seen the furnace at work at Peavine, and am satisfied that it is the best furnace, and the most economical one out, for your ore. O'Hara will now build a 25 ton furnace, for 5000, and 5000 royalty, the royalty not to be paid for six months, and only after he has proved it to be all he claims for it. The lumber for the new log schute is all out, and we shall commence laying it down to-morrow. I hope to be able to commence sawing next Monday. At the mine, the engine-shaft is down 370 ft. The contractors have, therefore, just 37 ft. to sink to complete their contract, when I shall have to pay them the balance retained in my hands as security for due performance. The 300 ft. level is all timbered, and the contractors have commenced to drive on their contract. The water coming from the face of the 200 increases. I am looking for a great widening of the lode ahead of us, and I hope a "big bonanza." In a few more days I shall have three stopes ready to furnish ore. Team getting ready to haul.

MALPASO.—W. S. Welton, May 18: The water was turned in on the 23rd ult., but from the breaking of the sides of the ditch no work was done at the mine until the 27th ult. I intend making a general clean-up at the end of this run (about the 29th inst.), and will then re-rock the whole of the sluice after wedging it up to grade and making what repairs are possible. I hope by this means to prevent so much time being lost from breakages. After that the carpenters will go about reconstructing the high flumes and putting a new low-level sluice with one or two under currents. The wet weather does not cease, and I do not remember such continued rain since 1871; this of course adds to our troubles, and we have altogether a most anxious time.

MALABAR.—G. B. O'Reilly, May 19: The Mine: On the 16th we began a general clean up of our sluices and undercurrent after running 396 hours. The result is fully as good as we expected, as our washing was very intermittent, owing to the necessity of our making it of secondary consideration, our principal aim being to get through with our bed-rock out, and thus obtain access to the large deposits of gravel to the east. Enclosed will be found invoice of the bar obtained, amounting to 3245·25 (680*l.*) This produce I am pleased to say will very nearly cover our washing cost to date, so that our new cut has not been altogether dead expense. It will take us now fully two months before we are ready to begin a trial run in the east banks, but we hope to do some washing in the meantime. We have to put in a few boxes, and work our way through a heavy mass of boulders, before we are ready for a run in the direction we are aiming at.

UNITED MEXICAN.—Guanaxuato, May 24: Mine of Jesus Maria y Jose: The value of the ore extracted and sold in public sale still covers the weekly outlay on this mine; the good prices paid are to be attributed to the scarcity of ore in the market. The buscone sales for four weeks ending June 18, 3742.—New Concern: Adit of San Cayetano and Mine of Buenos Ayres: We have driven in the end of Santa Elodia, in the four weeks ending May 31, 1340 metres, and in the end west of the adit, in the same period, 750 metres, leaving about 22 metres to drive before the junction of the ends is effected. In Santa Elodia the appearance of the rock is getting more like that of the other end—harder as we advance. In both ends the same thin and narrow ramification is seen close to the northern wall of the lode. Of the other mines of the new concern buscones are again exploring in San Miguel and in the upper workings of San Antonio, and extracting ore, and they will send some cargas to Dolares at the end of this or beginning of next week.

SAN PEDRO (Chili).—Wm. Phillips, May 17: The 150 fm. level end, driving through the manto, south of west, by three men, is producing good stones of ore, but as yet not sufficient to value; the lode looking very kindly for improvement. This is the end that was being driven round the Manto. I have now changed the direction more to the west, in order to prove the Manto under a large piece of unexplored ground in the 135, also under the run of ore ground in the 122, and under the ore ground that we at present working in the 88. I have hopes of meeting with some good ore ground by driving this. I thought to drive the main cross-cut to accomplish this, but I find it is too far to the west, and the ground is expensive for driving. In the 135 fm. level we have commenced to sink a chiffon in the bottom of the level, about 10 metres nearer the shaft than the bunch of ore that Capt. Kitto had in the back to try to meet with the dip of the same going down; this is producing occasional stones of ore. In the 122 fm. level end, driving round the manto, south of west, is producing good stones of ore, but not sufficient to value, as reported in mine of March 31; the ground here is very favourable, but we have not yet got into the run of ore ground. The 110 fm. level end, driving round the Manto, south of west, was holed to old works a few days ago. We shall resume the driving as soon as we have cleared away the stuff that fell down from the old run. In the 88 the lode in the stope in the bottom of this level will produce 7 tons of 20 per cent. ore per fathom; we have suspended the chiffon, as it is very inconvenient to sink and stope at the same time. The lode in the stope in the back is about 12 ft. wide, and about 30 ft. long, and is much the same as that in the bottom, producing 7 tons of 20 per cent. ore per fathom. In the 47 we have commenced a chiffon by the side of the old works, which is now producing good stones of ore, but hardly enough to value. The cross-cut driving towards the Cubo is without change; ground very for driving. In the 150 we have commenced preparations for sinking the shaft; to get everything in order will take the greater part of next month, but shall push on this work as fast as possible.—Cuba Mine: The chiffon sinking below the adit has improved since last report; we have cut some branches of good ore, and if these unite in depth there is little doubt that, as Capt. Kitto believed, they will make a bunch of ore; it will now produce ¾ ton of 25 per cent. ore per fathom. Everything inside and out is working well.

NEW ZEALAND KAPANGA (Gold).—J. Thomas, May 6: Since my last the cross-cut has been driven 16 ft. 6 in.; total length from engine-shaft, 60 fms. 4 ft. During the past 16 ft. driving through the hard hanging wall the ground becomes much more difficult to go through than it has ever been. The stone was a tough "uran," very broken, and split up with cross angular joints, which cut off the small flookan seam, and the regular wall on the north side of the cross-cut, which followed our course since commencement from engine-shaft. Lithofracteur took very little effect in this ground, owing to the cross grained nature of the stone, which made the progress very slow the past four weeks. I am happy to say since yesterday a complete new change of ground has made its appearance in the end, comprising a softer stone, good bearing and working country, that good progress can be made as long as it continues. The present end shows very small seams of flookan in the joints, which are letting out streams of water, at times bursting forth with hissing force all over the face and back of the level. This sudden and kindly change of country about being under the watery strata of the old works makes me expect almost every hole now bored may cut into the lode. Still it is probable we may have to drive some feet further, as I expect the lode dips more perpendicularly at the depth of the cross cut than it does in the bottom level of the old mine. No human effort can do more than what is doing in pushing on this work. The machinery and pitwork cannot work better.

ECHOES FROM THE MINING MARKET.

Mining matters remain without change. The dulness of the metal markets continue, and prices for shares are in many cases purely nominal. The latter are now so low that whenever the change for the better comes, as come it must sooner or later, holders at existing quotations will be in a position to realise some very large profits. Buyers, in fact, could scarcely have greater advantages in their favour. With regard to tin shares it is somewhat cheering to find the following views entertained by one of our Cornish managers, as it shows that hopes of early amendment in the price of tin are far from being abandoned by those who from their position are supposed to know something of "the trade." Mr. P. Bowns, of St. Just, writing to his co-adventurers in North Levant Mine, says, 'The opinion expressed in my last circular that the supply from Australia would be less this year than last is being amply confirmed month after month by lessened importations, and despite political disquietude abroad, and well nigh commercial stagnation at home, the stock of tin instead of continuously increasing has at length diminished a little two months in succession, so that with a return of only ordinary commercial activity we may yet see a better price in 1876 than in 1875.' We sincerely hope we may, but of course it is the reduced value of the metal that causes diminished supplies, and any improvement in the former would most assuredly be followed by increased shipments of the latter. It is not the arrival of a few tons more or less per month that will end up the price of tin permanently, what is of paramount importance is a better consumption—a consumption in excess of the supply. Diminished demand naturally leads to diminished production.

Coal has been dull, but is now probably at very nearly its lowest price. Colliery labour, and we may say ironstone also, must now be at its minimum value: for further reductions would scarcely be practicable. Unlike their brethren in tin, copper, or lead mines, the collier and the iron miner cannot reckon upon a uniform wage, although to some extent this disadvantage is set off by greatly increased remuneration when times are good.

The mineral statistics of the two western counties for 1875 show signs of the times. The number of mines working was 259, and 22,134 persons were employed, showing a decrease of 2132 on the previous year. The tutwork men only earned monthly, on an average, 2*l.* 10s., as compared with 4*l.* 1s. 6d. two years ago. In 1875 Cornwall produced 769 tons of black tin less than in the preceding year, although the quality of the tinstone raised was 43·60 greater.

In the share market the dealings have been principally confined to a few of the leading lead, copper, and foreign mines. Fluctuations, however, have been very slight, prices showing, if anything, a rather lower tendency. Rockhope shares have been offered, and have fallen 5s.: we hear, however, that this reduction is primarily due to the closing of a deceased account. Pyrnimmon have had a slight reaction from the low prices of last week, and Glyn shares have been in demand at 3*l.* East Van are very dull at 7¼ to 7¾.

In the foreign share market the principal business has been in Flagstaff, Exchequer, I.X.L., Emma, Sweetland Creek, and Richmond Consolidated.

JAMES H. CROFTS.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains:—Original Correspondence: Mining in California and Nevada; Mining on the Pacific Coast (J. Sprague); New Method of Reducing Ores of the Precious Metals; Mining in Queensland; Boring Machines for Mines; Explosives—Detonators; Rivers Pollution Bill; Channel Tunnel (W. Firth); Cice Hill Colliery Company; Cornwall Minerals Railway (R. Symons); Wheal Peevor and its Management (W. T. White); Wheal Grenville and its Management (F. L. A. T. Rodda); Cardiganshire Mines, New and Old—No. VIII. (A. Francis); Unwrought Mining ground in Cornwall (C. Bawden); Court Grange Lead Mining Company; Glenroy—Share Dealing—Coal and Iron in the United States—Exports of Coal—Pocket Electric Fire-brick—Foreign Mining and Metallurgy—Production of Iron and Steel in the United States (J. M. Swank)—Why Investments by Foreign Corporations in American Mines Fail to Become Profitable—A Great Gold Mine—The California Soap Mines—Lurmann's Closed Furnace Hearth—Patent Matters—Meetings of St. John del Rey, Kapunda, Kingston Consols, Great Wheal Vor, Ebbw Vale, and North Levant Companies.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JUNE 30, 1876.

	£ s. d.	£ s. d
IRON.		
Pig, GMB, f.o.b., Clyde..	2 17 6–	—
,, Scotch, all No. 1 ...	2 18 0- 3	3 0
Bars, Welsh, f.o.b. Wales	6 0 0- 6	5 0
,, ,, in London.	6 15 0- 7	0 0
,, Stafford., ,, .	7 15 0- 9	15 0
,, in Tyne or Tees ...	6 5 0- 6	10 0
,, Swedish, London ..	12 0 0-12	5 0
Rails, Welsh, at works..	5 10 0- 6	0 0
Railway chairs	— –	—
,, spikes	— –	—
Sheets, Staff., in London	10 0 0–	—
Plates, Staff., in London	10 0 0-12	0 0
Hoops, Staff.	8 15 0-10	0 0
Nail rods, Staff. in Lon.	7 10 0- 8	0 0
STEEL.		
English, spring	14 0 0-23	0 0
,, cast	25 0 0-45	0 0
Swedish, keg.....	18 0 0–	—
,, fag. ham.	19 0 0–	—
LEAD.		
English, pig, common .	20 10 0-20	15 0
,, ,, L.B.	20 15 0–	—
,, ,, W.B.	21 10 0-22	0 0
,, sheet and bar..	21 15 0-22	0 0
,, pipe	22 10 0-22	15 0
,, red	23 10 0-24	0 0
,, white	27 10 0-28	10 0
,, patent shot ...	25 10 0–	—
Spanish.....	20 2 6	20 5 0
QUICKSILVER.		
Flasks of 75 lbs., ware.	8 0 0–	—
SPELTER.		
Silesian or Rhenish ..	23 0 0–	—
English, Swansea	23 10 0–	—
Sheet zinc	28 0 0–	—

	£ s. d.	£ s. d
TIN.		
English, ingot, f.o.b...	79 0 0–	—
,, bars ,, ...	80 0 0–	—
,, refined.....	80 0 0– 81	0 0
Australian	74 10 0– 75	0 0
Banca	77 0 0–	(nom.)
Straits	74 10 0– 75	0 0
COPPER.		
Tough cake and ingot.	80 0 0–	—
Best selected	81 0 0–	—
Sheets and sheathing .	86 0 0– 86	10 0
Flat Bottoms	89 0 0–	—
Wallaroo	74 5 0–	—
Burra, or P.C.C.	78 0 0–	—
Other brands	76 0 0–	—
Chili bars, g.o.b.....	74 10 0– 75	0 0
PHOSPHOR BRONZE.		
Bearing metal	£112 0	0
Other alloys	£120 0 0- 140	0 0
BRASS.		
Wire	8½d.- 8¾d.	
Tubes.....	9 -12	
Sheets	8¾ -9¾	
Yel. met. sheath. & sheets.	7 – 7¾	
Nails composition.....	8½ -10½	
TIN PLATES.*	per box.	
Charcoal, 1st quality ...	1 5 0- 1	6 0
,, 2nd quality ...	1 2 0- 1	4 0
Coke, 1st quality	1 0 0- 1	1 0
,, 2nd quality	0 18 6- 1	0 0
Black .....per ton	17 0 0- 17	10 0
Canada, Staff. or Gla., at Liverpool	13 0 0- 13	10 0
Black Taggers, 450 of 14 × 10	30 0 0–	—

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—The first half of the year 1876 has run its course, and, so far as the metal trade is concerned, we cannot congratulate the trade that the result has been at all satisfactory. The most hopeful and sanguine of observers have looked, and looked in vain, from zenith to horizon, for one bright spot to relieve the sombre aspect of the scene; but instead thereof one long low level of universal dulness and general depression has been the almost unvarying report from Jan. 1 to June 30. Were it possible, with any prospect of success, to prognosticate a brighter future, a more prosperous termination of the year, the first half of which has been so fruitless of results, there might still be a small modicum of consolation to those, and they are counted by thousands and tens of thousands, who in this country are interested in the fortunes of the metal trade; but the reputation of the chronicler who would venture, in the present aspect of affairs, to predict the losses of the past half-year would be recovered in the ensuing term of 1876 would not be worth very much..

So far as it is possible to form an opinion, there is no prospect that the second half of the year will prove more felicitous than the first. Should war break out certain metals would benefit by it, and the shipping interests would, undoubtedly, under a marked change. The state of uneasiness and anxiety which existing circumstances cause in various quarters is such that business is contracted within the narrowest limits, and however low prices may range—and however favourable may be the representations gather from statistics and other sources—buyers cannot be induced to commit themselves to any avoidable liability. And no wonder. The marvel is that the failures consequent upon this condition of stagnation have not more numerous, and the results hitherto more serious than they have been.

COPPER.—This metal has been quiet throughout the week, and Chili bars are lower now than at the opening. The principal event has been the sale of 1500 tons of Wallaroo cake copper, and 300 tons ingots. The former realised an average price of 78*l.* 2s. 10d., and the latter 78*l.* 13s. 7s. per ton. The average of the previous sale, in March, was for cake 83*l.* 10s., and for ingots 84*l.* 11s. 9d. The price of English manufactured has been reduced 2*l.* per ton, and the present quotation for strong sheets is 87*l.* to 88*l.* Indian, 4 by 4, 86*l.* Chili bars, spot, 74*l.* 10s., and 74*l.* for forward delivery. The result of the Wallaroo sale can scarcely be considered satisfactory to the importers, and the low price realised clearly demonstrates that sellers cannot fix their own time for the disposal of any large quantity to their advantage. It has always been so in copper; sales can only be made when the market is good, otherwise a great sacrifice on the market price must invariably be submitted to—there is no doubt that such sales by public auction are detrimental to the interest of importers, as well as smelters and holders generally, and the experience of the last two sales may go a very great way to convince sellers that public sales are less profitable than those effected privately. Under these circumstances it could not be surprising that it will be deemed more advisable ere long to resort to the original and decidedly best practice of selling privately through a sworn broker.

It has been stated that the fall in the value of Wallaroo is owing to deteriorated quality; but the highest authorities assert that this is not the case, and that it simply arises from excessive quantities now imported of this higher description of copper from Australia, Lake Superior, &c. Wallaroo is now quoted 78*l.* 5s., and Burra, 78*l.*

IRON.—In the midst of discouragement it may be said that one encouraging feature may be pointed to in regard to the iron trade, and that is that general attention is being concentrated upon the condition which it occupies. Masterly articles appear in the columns of the most influential papers, and there is a singular agreement in their tone as to the nature of the evil, its causes, and the remedy needful in order to effect a cure. The special correspondent of the *Daily News*, writing from Middlesborough, characterises the Cleveland district as one in many respects more favourably circumstanced than its fellows as regards its capability of producing both pig and finished iron. With ironstone in great abundance and easy of acquisition—with the materials requisite for its transformation into pig-iron readily obtainable and in equal abundance—with convenient shipping accommodation at their very door, the Clevelanders enjoy a commanding vantage-ground, perhaps unrivalled. And yet how fares this far-famed district during the present collapse of the iron trade of the country? Does Cleveland stand out as an oasis in the surrounding desert—a bright spot in the midst of the arid wilderness? In the opinion of the writer of the article above referred to the answer is distinctly—No. The position of the Cleveland district, notwithstanding all her local advantages, does not appear to be one which superior to that of the other centres of the iron industry throughout the United Kingdom; and extending the gaze further abroad than that of our continental neighbours, who somehow or other seem to come to our own shores—nay, to the Cleveland district itself—to obtain the weapons wherewith to beat us in fair fight.

In this district there are said to be 158 blast furnaces, of which 119 are still in active operation, and 39 doing nothing. Granted that of these 39 some are worn out, and others old fashioned and incapable of being worked to a profit at such times as these, and that the balance are under repair, the all-important question is what good are those doing which are in blast? To what profit may the proprietors look as the result of their operation, and what becomes of the output? Does it find its way into the various rolling mills of the neighbourhood, or of the United Kingdom, and re appear in the form of rails, bars, plates, sheets, &c., or is it purchased by our foreign competitors and shipped away to various continental ports? As regards the profit obtainable from the pig-iron industry in Cleveland, it appears an incontrovertible fact that manufacturers who are not possessed of iron mines, and who are consequently compelled to purchase their ironstone, are and have for long been making to a loss, whereas the possession of mines containing the raw material, whether iron ore, coal, or lime, somewhat alters the position of the case. The sale of any or all of these ingredients in the manufacture of iron, leaves, it may be, some small profit, and in working for others, the surplus stock can be used up in blast furnaces erected in close contiguity to the mines, and thus the loss upon the sale of the pig iron is reduced materially, but still under the most advantageous circumstances there can be very little doubt but that at the present prices obtainable for pigs there is no appreciable profit. If the question be asked, Why then does the production of pig-iron go on? The reply has already been given in these columns—that to go on even at a loss presents the least of two evils, and when a man finds himself in an unenviable position, he is apt to think he had better "bear the ills he has than fly to others that he knows not of." Stocks in makers' hands are now estimated to be about 120,000 tons, and they are increasing.

This is not an encouraging feature, representing, as it does, a large and an increasing amount of unrecuperative capital. To turn from the pig iron trade to the finished iron department the position is still worse. The rail trade, which in years gone by has been the great staple industry of this district, is a thing of the past; and, together with this branch, all other branches are almost equally dull. It is estimated that Cleveland used to turn out not less than 350,000 tons of rails annually, but the trade has gone. It is true that fresh railway projects are not brought forward in the rapid succession experienced in former days. England is already covered with a network of railways, and the countries possessing a larger area have not, perhaps, developed the railway system as we have; and, owing to existing political or financial difficulties, fresh lines are not being laid down, but the existing lines must be maintained, and maintenance alone involves the annual manufacture of nearly 1,250,000 tons of rails; and still the Cleveland mills stand idle, not so much because steel rails are taking the place of iron rails (and the iron of the Cleveland district, because of the presence of phosphoric acid, is not adapted to the manufacture of steel rails, a difficulty which it is hoped by some may be overcome, though considerable doubt exists upon the point), but because the rate of wages is lower, and the hours of working longer, on the Continent than in England. A few years ago the trade was in our own hands, but the stimulus which was given to production through the operation of an inflated market set everyone to work to produce iron on his own account, and so many have learned the way that now that dull years have succeeded the plentiful years a terrible reaction has set in, the effects of which are but too surely realised, and the first markets to feel it are those where the men are best paid and work the shortest hours.

That railway bars are made, and made, too, in large quantities to meet the exigencies arising from required repairs to permanent way, is certain; and it is equally certain that those centres of supply which were formerly applied to are now so no longer. Buyers go into other markets where they can purchase good rails at a cheaper rate, and that they will continue to do so there can be no doubt so long as our rates are in excess. No fortuitous turn of the wheel is likely to usher in the dawn of a more prosperous day in the history of the iron trade of this district, or in that of any other part of the kingdom. If ever we are to regain our lost supremacy we must "stoop to conquer," and our operatives must learn that it is by dint of hard work, and contentment with moderate wages, that success is to be attained. The present generation is not so hardworking as their forefathers. The metal world has grown rich too fast, and all works whose mainstay is the furnace or the forge are being taught a lesson which, though painful to themselves to learn, may prove of invaluable service to their children. During the last week the Middlesborough market has been very quiet, and the cloud, heavy enough already, has deepened through the dismissal by Messrs. Bolckow and Vaughan of between 700 and 800 of their men. The fears lest a dispute in the matter of wages should arise have been dispelled, the men having declined further action under the impression that a re opening of the question might possibly result in a still further reduction of the existing rate of wages. This appeared highly probable, inasmuch as there is but a very limited market for finished iron at current rates. The demand for plates is very limited, but bar iron is somewhat more in request. In pig-iron there is very little doing for local consumption, but large quantities are being shipped abroad, and coastwise to Scotland. In one week upwards of 5000 tons have been thus disposed of. Whether this can be viewed with complacency has already been discussed. Owing mainly to the foreign demand quotations have been fairly maintained. No. 1 stands at 50s.; No. 3, 45s. 6d.; and No. 4 forge, 43s. 6d. net cash.

There is no change for the better in the aspect of affairs in South Wales. Spain and Russia have helped in some small measure to relieve manufacturers of a few parcels of iron, but the hopes of a continuance of trade with the latter country are small, in consequence of protective measures about to be passed by the Russian Legislature with a view to the development of their home trade. This is another severe blow to this district, coming as it does upon the top of the cessation of the American trade. If further proof were wanting of the terrible condition to which the iron trade in South Wales is reduced the report of the Ebbw Vale Company for the year ending March 31, 1876, affords but too decisive testimony, the loss upon the year's operations being no less than 221,000*l.* The deliveries of iron from Newport during last month were 7771 tons, from Cardiff 11,239 tons, and from Swansea 300 tons: total 19,310 tons, as against 14,250 the preceding month. The Glasgow pig-iron market has been steady throughout the week, and closes to-day at much the same quotation as a week ago—57s. 3d. to 57s. 4½d.

SHIPMENTS.

Week ending June 26, 1875	Tons 13,101
Week ending June 24, 1876	8,071
Decrease	5,030
Total decrease for 1876	42,823

LEAD continues very quiet. Good soft English pig, 20*l.* 10s. to 20*l.* 15s.; and soft Spanish, without silver, 20*l.* 2s. 6d. to 20*l.* 5s.

SPELTER.—Silesian is dull at 23*l.* Stock in London 82 tons.

QUICKSILVER.—Business has been done in Spanish at 8*l.* 10s. down to 8*l.*, the market closing at the latter price.

TIN.—This metal, after some slight fluctuations, is a shade higher than last week, and Straits is nominally 74*l.* 15s., and Australian about the same price. The deliveries for this month of Banca and Billiton in Holland are said to reach 800 to 900 tons, the deliveries from warehouse here 1400 to 1500 tons, but there is some suspicion that the deliveries are not making their way into consumption, and that they are simply a transfer in part from one place to another. While any mystery of this kind exists it is enough to shake the confidence of consumers, and therefore not surprising that they view the returns with extreme caution, and not rely upon them as formerly.

TIN-PLATES.—The market continues very dull, and the men engaged in some of the works have shown wisdom in not opposing themselves to terms offered, and such as alone upon which the masters could retain their services.

THE IRON TRADE.—(Griffiths's Weekly Report).—Friday Evening. The Glasgow market has been steady during the week, with little change in price; g.m.b. pig iron changed hands this afternoon at 57s. 4½d., a shade less than the price this day week. Later advices from Glasgow state that after business hours this evening warrants were offered at 57s. 3d.; buyers 3d. less. In makers' iron there is no change. Our market has been quiet this week, with the usual hand to mouth business. The only transaction of importance we have to report is a contract for 3000 tons of steel rails, which was taken by the Ebbw Vale Company at the market price. These rails are destined for India.

The Birmingham Quarter day will be held next Thursday week. A very large meeting is expected. We are requested to state on authority that there will be no change in the price of marked Staffordshire bars at the Quarter-day. The price for the next quarter will be 9*l.* per ton for marked bars, and 9*l.* 12s. 6d. for the Earl of Dudley's, the same price which has ruled during the current quarter. It will be remembered that the ironmasters and colowners have made a compact with the workmen in regard to wages which will hold until October, and without longer hours by the men and reduced wages no further reduction in the price of iron in Staffordshire can take place. If the trade improves before October so much the better both for men and masters.

Mr. Maclure, of the Stow Furnaces, Northamptonshire, has given the men notice to leave, and these works will immediately be stopped in consequence of the unprofitable condition of the iron trade. Messrs. Fletcher, Solly, and Erwick have resolved to stop their Willenhall furnaces in consequence of the unprofitable state of the smelting trade. This unfortunate event will throw a great number of men out of employment. Although this firm have valuable mines, we understand, as matters now stand, the ironstone cannot be raised to make a reasonable profit on the pig-iron. We have no change in values to record this week except in the hematites of the West Coast, which are reduced 2s. 6d. per ton.

MESSRS. SANFORD and BIRD—COPPER: The result of the Wallaroo sale has lowered the values of other descriptions from 2*l.* to 3*l.* per ton.—TIN, with little business passing, keeps very steady, and during the past month quotations have not varied.—TIN-PLATES are without improvement.—LEAD continues dull.—QUICKSILVER is now quoted at 8*l.* 10s.

The settlement of the fortnightly account took place in the MINING SHARE MARKET this week, but it was of a limited character, and general business is still dull and depressed.

The mines dealt in to a moderate extent have included Roman Gravels, Van, Prince of Wales, Parys Mountain, Pennerley, Santa Barbara, Penstruthal, Rookhope Lead, Tankerville, Glenroy, West Chiverton, North Laxey, East Van, and a few others.

Van, 36½ to 37½; the directors have declared a dividend of 16s. per share (12,000*l.*) for the quarter. East Van, 7½ to 8. Roman Gravels, 14¾ to 15¼; the 95, north of old shaft, is worth 3 tons of lead ore per fathom; the 95 south, 3 tons. The 80, south of Wilkes's winze, is worth 5 tons per fathom. The 65 south, 5 tons per fathom. The sampling next week will be 220 tons of lead ore for the month. Tankerville, 10 to 10½; the winze sinking below the 167 fm. level, 17 fathoms west of shaft, is worth 10 tons of lead ore per fathom. West Tankerville, 1⅞ to 2¼; the sampling on Thursday will be 30 tons of lead ore. The 75 fm. level south is improving. Pennerley, 1¾ to 2; the lode in the 130 fm. level east is improving, and appears to be entering the same run of ore discovered in the level above. The stope in the back of the 120 is worth 2 tons of lead ore per fathom. At Potter's Pit the lode in the winze below the 75 is worth 4 tons of lead ore per fathom. Rookhope, ⅝ to ¾; these shares have been flat, owing, we understand, to the death of a large holder, whose shares have been in the market, and not from any falling off in the mine, the general appearance of which is very encouraging, and ere long the returns will considerably increase.

West Chiverton, 16½ to 17¼; at the setting last week the various tutwork bargains were valued in the aggregate at 120*l.* per fathom. Fifty tribute pitches were also set. The mine throughout is looking equal to if not better, the agents state, than for some time past. Great Laxey, 16½ to 17½; North Laxey, ¾ to 1; Glenroy, 6¼ to 6¾; Glyn, 3 to 3¼; Van Consols, 1¾ to 2; Great West Van, ½ to ⅝; Pateley Bridge, 3½ to 4. Ladywell, 1¼ to 1⅜; the sampling here on Thursday will be 20 tons of lead ores. Old Treburgett, ½ to ½; South Roman, 1 to 1½; Prince of Wales shares have been in demand, and are better at 7s. to 9s. the lode in the 55 west has improved to 6 tons of copper ore per fathom. The 45, which is a long way behind, has come in, worth 5*l.* per fathom. It is now believed that this discovery is in a new shoot of ore, similar to that which further east at the same levels gave good dividends to the shareholders. Penstruthal, ¾ to ⅞; Carn Brea, 36 to 38; Devon Great Consols, 2½ to 3; Dolcoath, 34 to 36; East Caradon, 1 to 1¼; East Pool, 12½ to 13½; Marke Valley, 1¾ to 2.

Parys Mountain, 15s. to 17s. 6d.; the 90 cross-cut south shows no particular change. At the setting the points in operation are valued in the aggregate at 32 tons of copper ore and 13 tons of sulphur per fathom, independent of 11 tribute pitches. The new discovery at the 45 west, referred to last week, is worth 4 tons of copper ore and 2 tons of sulphur per fathom, and there is here, the agent states, plenty of unwrought ground, which he hopes will turn out well. Cathedral new issue, par to ⅛ prem. South Condurrow, 3¾ to 4¼.

New Rosewarne, ⅓ to ¾; at the meeting the accounts showed a balance of liabilities over assets of 2857*l.* A call of 5s. per share was made; and the meeting adjourned for a month, to take future operations into consideration. It was explained that the 58 and 67 levels in this new copper ground had each gone through 20 fms. of ore; but, to work it deeper and properly, Rule's shaft should be sunk through the ore ground, which could be done in four months at a small cost. It appeared, also, that out of 50 shareholders only four (holding 1400 shares out of 2855) ever attended the meetings; and a resolution was passed, that a detailed statement showing the exact position and prospects of the mine should be drawn up and sent to each shareholder, whose assistance should be asked in disposing of the 2145 forfeited and relinquished shares, upon which 5*l.* 2s. has been paid, at 10s. per share. Those not taken up by shareholders will be offered to the public.

Relistian Consols, ½ to ⅝; West Seton, 37½ to 42½; West Tolgus, 60 to 62½; Wheal Crebor, 2 to 2½; Wheal Grenville, ¾ to 1¼; Wheal Kitty (St. Agnes), 2½ to 2¾; Wheal Uny, 1 to 1¼. At the West Maria and Fortescue meeting the accounts showed a debit balance of 842*l.*, and a call of 1s. 6d. per share was made. At the North Levant meeting, in Cornwall, the account showed a profit of 107*l.* on the four months' working. The ores sold were—Tin, 253*l.*; copper, 148*l.*; total, 268*l.* The balance in favour of the company is 496*l.* At the Levant meeting the accounts showed a loss of 166*l* on four months' working, and a debit balance of 750*l.* The tin sold (71 tons) realised 2994*l.*; copper (111 tons), 912*l.* The mine is looking well, especially in the 230 and 240 fm. levels.

St. John del Rey, 360 to 380; the fortunate shareholders here have received 50 per cent. in dividends for the year, and 10 per cent. has been added to the reserve fund. The profit for 12 months has been 151,768*l.* 7s. 11d., or an average of 12,642*l.* per month. Santa Barbara, 1⅝ to 1⅞; this mine, to which we called attention in the early part of the year, is an infant in comparison with Del Rey, but it is in the same district, and yielding ore of precisely the same character and quality, and will gradually increase its returns and dividends. It is under excellent management, and has a very small capital to pay dividends upon. Eberhardt and Aurora, 9 to 9½; the directors have declared a dividend of 5s. per share. The remittance for May amounted to 10,000*l.* Birdseye Creek, 1 to 1¼; Chontales, ⅜ to ½; Emma, ⅝ to ¾; Flagstaff, 1⅜ to 2; Frontino and Bolivia, 1½ to 2⅛; Javali, 6s. to 7s.; Exchequer, 1⅞ to 2¼; I.X.L., 20s. to 22s. 6d.; New Quebrada, 3¼ to 4; Richmond, 8¼ to 8½; San Pedro, 1⅜ to 1⅝; Sweetland Creek, ½ to 1; Argentine, 6 to 6½; Condes of Chili, 6 to 6½.

The Market for Mine Shares on the Stock Exchange has not been particularly active during the week, the attention of the dealers being absorbed by the fortnightly settlement. Business has also been affected by the rumours of war in the East, and prices, with some few exceptions, rule a shade lower.

St. John del Rey, 335 to 355, ex. div.; at the meeting on Wednesday, reported in another column, the dividend recommended by the directors was agreed to, and the shareholders appeared well satisfied with the position and prospects of the property.

Condes of Chili, 6 to 6½; Mr. Seccombe, the company's agent in charge, advises that he had been underground in the Isolina Mine, and that the average value of the lode throughout is 4 tons per fm. (superficial), or at the rate of 60*l.* to 70*l.*; in the new discovery, 100 fms. east, the lode is worth 6 tons, or upwards of 90*l.* per fathom. He states that he can work the mines all the year round, and he sees no reason why the other mines belonging to the company should not be equally as rich as the Isolina from the evidence he has had laid before him. The first shipment of ore sold by Messrs. Lewis and Son, on Tuesday, realised an average of 16*l.* 2s. per ton, which is considered a highly satisfactory price. The second shipment, which has arrived, is reported richer in silver. Argentine, 6 to 6⅛; it appears that a large quantity of ore has been raised from the Piqué Mine, worth according to trials made upwards of 2 ozs. of gold per ton. The stamps were working well, and the results of the first months' working is expected next week.

Richmond, 8¼ to 8½; the telegram states the week's run at $50,000; the refinery produced doré bars to the value of $18,000. The increase in this weeks return is assumed to be due to the addition of one of the hydrocycle furnaces to the smelting power. Another hydrocycle is completed, and a good average capacity is now available. The manager announces the sinking of the main shaft to a depth of 65 ft. below the 800 ft. level. In the drift run from the 800 ft level they struck ore, as announced by telegram on June 8, at 110 ft. from the main shaft. The manager considers this ore to be a continuation downwards of the ore met with in the 700 feet level. It would thus appear that the ore body, as it goes down, is winding towards the main shaft, being now 90 ft. nearer thereto than it was at the 500 ft. level. Information has been received that a winze started from the 700 ft. level had gone down 20 ft. in good ore, and that sinking had been commenced from the 800 ft. drift, but that the want of ventilation impeded progress. This cannot be remedied till the communication is made from the 900 ft. level with the winze from the 800 ft.

Hydraulic or gold-washing shares have not shown much animation although some business has been transacted, and prices remain almost unchanged. There is every appearance of a long water season this year in California, and miners seem determined to make the most of it, this class of mining being particularly active throughout that State. Sweetland Creek, ⅜ to ⅝; the fresh advices have been anticipated by the telegram published last week respecting the clean-up. There is, therefore, nothing to report. Birdseye Creek, ⅝ to ¾; there is no change to notice at these mines. Washing is steadily progressing, and matters are presenting favourable appearances.

Cedar Creek, ½ to ¾; Col. Ludlum is pushing on with all work as energetically as possible, especially in the Yankee Tunnel, which is being driven ahead night and day, as the manager wants to get another claim open before the end of the season. Blue Tent, 3 to 3¼; the manager reports that he is getting a regular supply of water through the ditch, and that there is abundance of snow on the mountains. The company have the auriferous gravel, and the outlet for washing; all that was wanted is now supplied, and that is a good supply of water. Gold Run, ¾ to ⅞; the agent states that he has now 17 days run made, but will not clear up until the Miners' Company do, which he thinks will be in about six or eight days. Everything is now progressing satisfactorily.

In British Mines there is still an absence of business, quotations being merely nominal. Van, 36 to 38; the usual monthly report appears in another column. The mine is looking well, and matters are progressing satisfactorily. The sale on Thursday, 500 tons of lead and 200 tons of blende, the produce of four weeks' dressing, realised 787*l.* 15s. The directors have declared a dividend of 12,000*l.* (16s. per share) for the quarter ending June 30, payable on July 14. Great West Van: The manager writes that the 46 west is improving. Van Consols, 1⅞ to 2; all the work is progressing with regularity. Glyn, 3 to 3¼; the engine-shaft is fast reaching the depth for cross-cutting to the lode. Pennerley, 1⅞ to 2; the lode in the 130 east is improving, and appears to be entering the run of ore discovered in in the level above. The 100 east is also producing stones of lead. At Potter's Pit the north lode in the 90 has been intersected, and good progress has been made in driving on its course towards the winze sunk below the 75. Other parts of the mine without change.

Pateley Bridge, 3½ to 4; the Lumb vein is improving, now worth 14*l.* per fathom—a fine-looking lode. Fielding's vein maintains its size and character, producing 1 ton of lead ore per fathom. In the south-east end the vein has improved, producing 15 cwts. lead ore per fathom, and likely to further improve. Pringap vein is showing strong indications of a favourable change, and the agent is of opinion that he is near a rich course of ore. The shaft on Sun vein, under Gillfield level, is in good course of sinking, and the lode in the bottom is improving, and carrying on the south wall a leader from 9 to 12 in. thick, half of which is solid metal. West Pateley Bridge, 5 to 5¼; in the new level from the joint adit they have this week met with solid stones of lead in the gossan part of the lode. The remaining portion also carries spots of ore. This is regarded as a most encouraging feature.

Penstruthal, 15s. 6d. to 17s. 6d.; Capt. Teague writes in a sanguine manner as to the prospects for copper. Cathedral, new issue, par to ½ prem.; the lode is rapidly improving in the bottom of the mine. The shaft is now yielding 2 tons of good quality copper per fathom.

Subjoined are the closing quotations:—

Asshcton, 1⅝ to 1¾; Caru Brea, 36 to 38; Devon Great Consols, 2½ to 3; Dolcoath, 24 to 26; East Caradon, 1¾ to 1½; East Lovell, 1 to 2; East Van, 7¾ to 7⅞; Glyn, 2⅜ to 2¾; Great West Van, ⅜ to ⅝; Great Wheal Vor, ⅛ to ¼; Hingston Down, ½ to ¾; Marke Valley, 1⅝ to 1⅞; Pateley Bridge, 3½ to 4; Parys Mountain, 17s. to 19s.; Pennerley, 1½ to 2; Penstruthal, 15s. to 17s.; Roman Gravels, 14 to 14½, ex. div.; Tankerville, 9½ to 10; Tincroft, 17 to 19; Van, 36 to 38; Van Consols, 1¾ to 2; West Tankerville, 1¾ to 2; Wheal Grenville, ¾ to 1¼; West Chiverton, 16 to 17; West Tankerville, 1¾ to 2; Wheal Grenville, ¾ to 1¼; Almada and Tirito, ⅛ to ⅛; Argentine, 6 to 6¼; Birdseye Creek, ⅝ to ⅞; Cape Copper, 40 to 45; Cedar Creek, ½ to ¾; Chontales, ⅜ to ½; Colorado Terrible Lode, ¼ to 1; Condes of Chili, 6 to 6½; Don Pedro, 1 16th to 3 16th; Eberhardt and Aurora, 9 to 9¼; Emma, 1⅝ to 1⅞; Exchequer Gold, 1⅞ to 2⅛; I.X.L., 1 to 1¼; Flagstaff, 1¼ to 2; Frontino and Bolivia, 1⅞ to 2⅛; Javali, 6s. to 8s.; New Quebrada, 3¼ to 4; Oregon Preference, 4 to 4¼; Pestarena, ¼ to ⅜; Richmond Consolidated, 8¼ to 8½; St. John del Rey, 345 to 355, ex div.; San Pedro, 1⅛ to 1⅝; South Aurora, ¾ to ⅞; Sweetland Creek, ¾ to ⅞ ex div.; Tecoma, ½ to ¾; Blue Tent, 3 to 3½; West Pateley Bridge, 5 to 5¼.

COLLIERIES.—The state of trade certainly does not improve rapidly, and indeed, in some respects appears to be going from bad to worse. This does not, however, seem to be the case with the coal trade, which in many districts has decidedly improved, while in the rest there has been no change. The rumours of war, which have within the last few days been much strengthened, lead us to believe that the demand for coal and iron is likely to become very much larger in a short time. Meanwhile the dulness of trade and the extraordinary disinclination to invest even in the best securities, have kept colliery as well as all other shares low, and there can be little doubt that a very slight improvement in business will produce a marked upward tendency. Altami shares remain at about 5 to 5¼. The progress of the works is good, and they are now in a position to largely increase their output. Chapel House shares are about 3 to 3¼; very little business has, however, been done in them, but we hear that there have been a few speculative sales, and dealers will no doubt endeavour to keep prices down until they have covered themselves. We hear that the new works are proceeding rapidly, and on a large and substantial scale, and from the careful way in which they are being constructed there can be no doubt that, when they reach completion, they will enormously enhance the value of the company's property. It was originally estimated that they would increase the output to 1000 tons per day, but by a judicious arrangement of the machinery the manager now expects to raise considerably more than this. The present output is maintained at the old average—about 7000 tons per month—and we understand that the profits are still most satisfactory. The meeting of the Ebbw Vale Steel, Iron, and Coal Company was held on Thursday, in Manchester, and the accounts showed a loss of 164,425*l.*—which, added to the amount brought forward from the last statement, makes a sum of about 221,000*l.* to be carried forward. The dispute in South Yorkshire still drags on without any early prospect of a settlement, and so long as the present slackness continues the men, who are entirely wrong in the matter, will be the chief, if not the only sufferers. The following are the closing prices:—Mold Argoed, 4 to 5; Cardiff and Swansea, 2 to 2½; Hay Hall, 8 to 10; New Sharlston, 3 to 3½; Cannock and Huntington, ¼ dis.; Hunstead, 1 prem.; Perry, 1 prem.; Sandwell Park, 25½; Sandwell Park (new), 14 prem. Spon Lane, ½ dis.; West Cannock, 2 prem.; Thorp's Gawber, 4 to 4½.

At Swansea Ticketing, on Tuesday, 1031 tons of copper ore were sold, realising 15,678*l.* 5s. 0d. The particulars of the sale were—Average standard for 9 per cent. produce, 94*l.* 19s. 2d.; average produce, 20½; average price per ton, 15*l.* 4s. 1d.; quantity of fine copper, 212 tons 13 cwts. The following are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
June 13	1005	£ 97 11 3	17¼	£13 1 4	15s. 1d.	£75 15 0
„ 27	1031	94 19 2	20½	15 4 1	14 8	73 6 8

Compared with the last sale, the decline has been in the standard 2*l.* 12s., and in the price per ton of ore about 8s. 6d. There will be no sale on July 11.

THE CLEVELAND EXTENSION MINERAL RAILWAY COMPANY is inviting applications for 154,000*l.*, in shares of 10*l.* each, being part of the total share capital of the company, the balance of 16,000*l.* not being required for the construction of the works at present contracted for. The proposed line will run from a point in connection with the Kiltonthorpe branch of the North Eastern Railway Company, at Brotton, in the North Riding of Yorkshire, and terminate at Glaisdale by a junction with the North Yorkshire and the Cleveland branch of the North-Eastern Railway. The line is 10½ miles long, and the existence of the Cleveland ironstone has been proved through most of its length. In the vicinity of the line several shafts have already been sunk to the ironstone, and others are contemplated by lessees who are only waiting for the construction of this line to enable to develope their royalties. The two branches which the Cleveland extension line will connect were originally constructed by independent companies, and afterwards acquired by the North Eastern Railway Company; both branches are now contributing largely to the net earnings of that company, so that it is thought the new company's stock ought to become at least as valuable as that of the North-Eastern Company, whether it be eventually absorbed by that company or maintains its independent existence. A daily traffic of 3000 tons per mile, calculating the working expenses at 50 per cent. of the gross earnings, would yield a dividend of 10 per cent per annum, after providing for the interest on the amount which the company is authorised to borrow on debentures. The shafts now opened, and those about to be sunk, are expected to create a large traffic, and there is no doubt that the progressive development of the important district through which the line passes must result in a very large and continuous increase of traffic. The facilities for securing mineral traffic will be readily understood from the statement that after leaving the junction, about 2½ miles from Saltburn-on-the-Sea, the line proceeds through the richest part of the hitherto undeveloped ironstone district, passing over a mile of the estate of Mr. John Thomas Wharton, of Skelton Castle, whose income 20 years ago was between 400*l.* and 500*l.* per annum, but by the discovery of ironstone is now estimated at above 50,000*l.* per annum. Next it goes through Captain Linskill's Little Moorsholm estate, where a ravine 120 ft. deep is crossed by a viaduct on to Great Moorsholm to Gerrick, where the ironstone is proved to average 20,000 tons per acre; over the Liverton and Danby Low Moor estates of Lord Downe to Easington High Moor, owned by Mr. C. M. Palmer, M.P., skirting the estates of Mr. E. H. Turton and the Marquis of Normanby; through the valley of Greenhouses Beck, where a junction will be made with the North Yorkshire and Cleveland Railway, about half a mile from Glaisdale and 10 miles from Whitby. Danby Moor is one of the highest points in Cleveland, and the line will have an inclination in each direction, so that the loads of ironstone will be carried with minimum engine power. The prospectus will be found in another column.

HALIFAX.—June 29: The following quotations are from Mr. J. H. Thackrah's list:—Halifax and Huddersfield Union Bank, 29¼; Halifax Joint-Stock Bank, 26½; Halifax Commercial Bank, 25½; London and Yorkshire Bank, 27s.; John Crossley's, 12; Whitworth and Co., 8; Elland Gas, 20; Rastrick Gas, 18½; Bradford Brick and Tile, A, 21; ditto, B, 7; Charlestown Brick and Tile, 10; Ripponden Commercial, 11; Hebden Bridge Cotton, 11; Yorkshire Boiler Insurance Company, 22s. 6d.; Norton Brothers, 8.

The creditors of the Anglo-German Tunnelling Company (Limited) are requested to send particulars of their claims to the liquidator by July 16; the Oriental Telegram Agency (Limited) by July 14; the Victoria and Fenton Park Colliery Company (Limited) by July 15; and those of the West Central Wagon Company (Limited) by July 20.

An interim dividend of 10s. per share is announced by Eley Brothers (Limited), and the transfer books will be closed from the 1st to the 10th proximo, both days inclusive.

THE NEW RIVER COMPANY.—At the Auction Mart, 1-30th part of a King's share in this company was sold by Messrs. Edwin Fox and Bousfield for 2935*l.*, being at the rate of 88,050*l.* per share. They also sold at the same time 74 100*l.* shares, with 60*l.* per share paid, in the same company, at from 280*l.* to 290*l.* per share, realising 21,040*l.*

NEW CHIVERTON.—The good prospects of this mine continue to improve. In the adit north a new lode has been cut, 15 ft. wide, and composed of a very fine gossan. This is a most important discovery, as under this gossan there is every probability of finding a rich lode of lead. The 35 north is only 10 fms. from being up to this new lode, and is being pushed on with six men, the lode already yielding stones of lead (on the old lode). The 50 north is worth 8*l.* per fathom, and the 50 south 9*l.* per fathom. The shaft is down upwards of 2 fms. below the 50, and the lode is worth 7*l.* per fathom. There are 12 men working on tribute. It may be added that where the new lode is discovered is 300 fms. from the boundary of the sett, giving a long run on its course.

WEST TANKERVILLE.—As we have so often drawn attention to the good prospects of this mine, it is satisfactory to see our anticipations being realised. The 75 south is worth 1 ton of lead ore, and the 63 south (considerably in advance of the 75) is worth 4 tons per fathom. The stopes are yielding ore varying from 1½ to 3 tons per fathom, and the mine is steadily improving, while the monthly samplings are being further increased.

ROOKHOPE.—This mine continues to look well. The stope in the back of the top level is worth 10 cwts. per fathom; adit worth 2 tons; two stopes in the back of the 15 worth 15 cwts. and 20 cwts. per fathom; stope in the back of the 25 worth 16 cwts.; opening in the back of the 25 worth 12 cwts.; and the general appearances of the mine are good. When some alterations are effected in the winding-engine, &c.—say, within a month—they will be able to raise a considerably larger quantity of ore. For some time past Mr. Blenkiron has repeatedly expressed his dissatisfaction with the dressing of the ore, and has been looking out for a more competent superintendent of this department. He has at last met with an experienced man, who he trusts will be of great service, and who is expected to be on the mine in a fortnight. The present management are giving every attention to the economical and efficient working of the mine, with a view to the earliest and permanent profits.

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MESSRS. F. W. MANSELL AND CO. (SWORN BROKERS) afford the LATEST INFORMATION from these VALUABLE MINES. I. X. L., EXCHEQUER, WEST PATELEY BRIDGE, STOCK EXCHANGE GENERAL MARKETS, RAILWAYS, FOREIGN BONDS, MISCELLANEOUS. See page 707 in to day's Journal.

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This adit will lay open very large quantities of tin and copper, that can be taken away without steam-engine for a considerable time.

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Applications, with testimonials, to be forwarded on or before the 5th day of July next, to the Secretary of the company,

Mr. J. J. TRURAN,
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AN EXPERIENCED CHEMIST and ANALYIST, who has a good knowledge of METALLURGY (especially of Iron and Steel) and ASSAYING—has had experience in the Wet Copper Process, Refining Lead, and the Manufacture of White Lead—will shortly be OPEN TO AN ENGAGEMENT.

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GENTLEMEN wishing to PURCHASE the WHOLE or a SHARE of WELSH SLATE QUARRIES, or to INVEST MONEY by way of MORTGAGE therein, are requested to communicate with the undersigned, who is instructed to negociate several matters of the kind.

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LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
June 21	Great Dyliffe	80	£14 1 6	Walker, Parker, and Co.
27	Frank Mills	50	9 10 6	Treffry's Estate.
—	ditto	10	9 15 6	ditto
—	Caldbeck Fells	9	13 10 0	Nevill, Druce, and Co.
	ditto	5½	8 9 0	ditto
28	Grogwinion	100	14 7 6	Walker, Parker, and Co.
—	Pisyllimmon	20	13 7 0	Nevill, Druce, and Co.
—	Cwm Dwyfor	10	13 7 0	ditto
29	Van	400	14 5 0	Walker, Parker, and Co.
—	ditto	100	14 19 6	ditto
30	New Chiverton	5	13 15 0	Treffry's Estate.
—	ditto	12	6 7 6	South Wales Company.

BLENDE.

Date.	Mines	Tons.	Price per ton.	Purchasers.
June 24	Willoughby	30	£ 2 14 6	Ripley Spelter Co.
29	Van	50	3 11 0	Bagilit Smelting Co.
—	ditto	150	3 6 6	ditto

COPPER ORES.

Date.	Mine.	Tons c. q.	Price p. ton.	Purchasers.
June 26	Caldbeck Fells	3 13 0	£12 0 6	Nevill, Druce, and Co.
—	ditto	4 20 3	5 18 0	ditto

AUSTRALIAN TIN ORE SOLD IN LONDON on June 27.

Messrs. Tregoning and Co. have purchased 60 cwts., at 48*l.* 2s. 6d.; 46 cwts., at 48*l.* 2s. 6d.; 20 cwts., at 48*l.* 2s. 6d; 8 cwts., at 48*l.* 2s. 6d.—Total, 6 tons 14 cwts.

COPPER ORES.

Sampled June 14, and sold at Swansea, June 27.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Cape Ore	64	20¾	£21 16 6	Australian	19	16½	£11 16 6
ditto	64	20¾	21 16 6	ditto	4	16¼	11 6 6
ditto	64	20¾	21 16 6	ditto	7	16¾	11 19 6
ditto	64	20¾	21 15 0	ditto	1	17	11 15 6
ditto	63	20¾	21 13 0	ditto	24	10¼	7 7 0
ditto	62	20¾	21 13 0	ditto	25	10¾	7 19 0
ditto	62	20¾	21 8 6	ditto	17	15½	11 1 6
ditto	60	20¾	21 10 0	ditto	8	12½	9 7 0
ditto	69	31¾	23 6 0	ditto	6	10½	7 2 6
ditto	8	31	22 18 0	ditto	1	15½	11 1 6
ditto	4	52½	39 1 0	ditto	1	7½	5 5 0
Berehaven	120	8¾	6 2 6	ditto	4	15	10 5 6
ditto	100	7½	5 7 6	ditto	5	10¾	7 4 6
Australian	22	19¾	14 5 6	Cronebane	83	2½	1 3 6

TOTAL PRODUCE.

Cape Ore	584	£12,854	2 0	Australian Ore	144	£1454	2 6
Berehaven	220	1,272	10 0	Cronebane Ore	83	97	10 6

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
P. Grenfell and Sons	34½	£ 803 17 0
Nevill, Druce, and Co.	132½	1,792 10 6
Vivian and Sons	13	344 13 0
Williams, Foster, and Co.	495	5,560 8 6
Mason and Elkington	64	1,392 0 0
Charles Lambert	170	3,165 9 0
Ravenhead Copper Company	60	1,290 0 0
Sweetland and Co.	62	1,328 7 0
Total	1031	£15,678 5 0

NO SALE on July 11.

TOTALS AND AVERAGES.

	21 cwts.	Produce.	Price.	Per unit.	Standard.
Whole sale	1031	20½	£15 4 1	14s. 8d.	£ 94 19 2

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

GOLD EXTRACTION.—Will some correspondent kindly give information as to what machinery is most suitable for gold quartz crushing? The ore contains a more or less quantity of silver and copper, which would probably require some special manipulation. If the present shafts that are being sunk are a success, there will be a run, and large quantities of engines and machines required.—H. R. S.

SIR,—It seems to me that the management of the St. David's and South Prince Patrick Lead Mining Companies might favour the Journal with reports of the progress of these mines oftener than seems to have been the case for some time past. It is much to be hoped that the joint prospects are not in anywise clouded by poverty of ground or other difficulties.—NORTH WALES.

WEST JEWEL.—As a shareholder in the above tin mine, I, with many others, shall be glad to know if any operations are going on. No doubt, with the low price of tin, it is quite prudent to restrict the output as much as possible, but to go on with sinking the shaft, and wait for better times. I hope this is being done, as I believe the property is a valuable one. At all events, it would be satisfactory to know if the usual report and balance sheet (now past due) will shortly be issued. Perhaps the secretary will kindly inform us?—INQUIRER.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

Received,—"Subscriber" (New York)—"J. W. S." (Leeds)—"B. S." (Maldanpck)—"M. N."—"C. H. A." (Carmarthen)—"A Shareholder" (Seria de Cocaes)—"T. C."—"T. R."—"Mendips"—"Shareholder" (Roman Gravels)—"W. J."—"R. B. W." (Medellin)—"H. S."—"W. T." (Cork).

MINING IN THE EAST.—No. V. will appear in next week's Journal.

THE SUPPLEMENTARY SHEET.—We have received occasional complaints, and of late a good many, that the Journal is delivered by country booksellers without the Supplement. Subscribers would oblige us by demanding that the paper should be handed to them complete, as every Journal is accompanied by the Supplement when it leaves our office, and the fault of omission must rest with the country bookseller or their London agent.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, JULY 1, 1876.

THE MINE INSPECTORS' REPORTS.

In compliance with parliamentary requirements, the annual reports of the several Government Inspectors of coal and iron mines have been issued. Blue Books are proverbially dull and tedious, and reports of mine Inspectors, consisting chiefly of statistics, cannot have many features of attraction for the public generally, but they are nevertheless exceedingly valuable to all engaged in mining operations, inasmuch as they afford conclusive data as to whether the progress which is supposed to be making in mining, engineering, and mechanical science bears practical fruit in saving loss of life and lessening the number of accidents in the working of our collieries. These reports, also, often contain valuable suggestions from the Inspectors, which cannot be too deeply impressed upon all who have the management of our mines, and which, if adhered to, would undoubtedly tend to lessen accidents and the diminution of the loss of life in the winning of coal. Unfortunately, however, the reports for the past year show that many suggestions and recommendations are disregarded, resulting in serious loss of life, and prove the necessity of some legislative enactment which would make compulsory those safeguards which have been proved efficacious, but which are sadly neglected in some districts. In proof of our assertion we have only to quote the words of Mr. THOS. WYNNE, the Inspector for North Staffordshire, who, in reference to fatal explosions which took place in his district during the past year, says—"No blame can attach to me for the loss of life by explosions, for I have year after year pointed out 'the farce' of using locked safety-lamps where the most dangerous of all lights (blasting) is allowed;" and Mr. WYNNE very naturally asks "whether it is advisable to allow these dire calamities to take place, destroying hundreds of valuable lives, which in the opinion of many persons are preventible by the simple prohibition of the use of explosives in fiery mines." These words of caution and recommendation on the part of the Inspector apply, of course, only to "fiery mines," and we would urge upon the managers of such collieries, that notwithstanding "blasting" is not yet prohibited by parliamentary enactment, they would act wisely and discreetly by resorting to such dangerous practice only in the most exceptional cases, for one fatal accident would far more than outweigh any advantage which accrues from blasting in ordinary mine operations. Powder should never be resorted to except in cases of the direst necessity, and then more than ordinary precaution should be taken to prevent fatal consequences.

The total quantity of coal raised during the year now past was 133,306,485 tons; fire clay, 1,932,294 tons; ironstone, 12,018,594 tons; and of shale, 442,940 tons. There were 535,845 persons employed in the various mines—427,017 below ground, and 108,282 (of whom 6504 were females) above ground. This was a decrease, as compared with the previous year, of 2589 males and 395 females. We hope the time will shortly come when the employment of females will be prohibited in connection with mines, for such employment is a degradation, and often attended with consequences which all must deplore. The total deaths during the past year amounted to 1244, having occurred by 927 fatal accidents, being one fatal accident amongst every 578 persons engaged in and about the mines, and one death by accident amongst every 430 persons employed—in other words, no less than 159,331 tons of minerals were raised for each fatal accident, and 118,730 tons for each death by accident.

It will, doubtless, be remembered that in the discussion which recently took place in the House of Commons in reference to the Employers' Liability Bill, introduced by Mr. MACDONALD, that gentleman averred that every accident in a mine "was a crime," and wished to make the proprietors of such pit pecuniarily responsible for compensation to the friends of the deceased. We pointed out at the time the folly and injustice of such assertion, and the reports of the various Inspectors for the past year corroborate the view we entertain—that there are some accidents which no human foresight or scientific ingenuity can altogether prevent. But, on the other hand, the statistics presented in the Inspectors' reports point out a very large number of fatal accidents of clearly a preventable character, but of a nature which it would be obviously unjust to charge upon the proprietor or manager of the mine when they have provided every appliance for safety, and the accidents are clearly traceable either to the carelessness or thoughtlessness of the collier. Our remarks apply more especially to the startlingly large number of fatal accidents from "falls of roof," showing a reckless disregard of careful "propping" which too often accompanies the desire for rapid cutting, and which only the care and caution of the working collier can prevent. In many instances the falls of roof far outnumber the deaths from explosions, and, indeed, in some districts form more than one-half of the total number of deaths from every cause. For instance, in the South Wales district (Mr. THOMAS E. WALES) the loss of life by falls of coal and stone were no less than 46, as against 20 by explosions, and 127 from all causes. In the Eastern District of Scotland (Mr. RALPH MOORE) the deaths resulting from falls of roof and sides, and in shafts, were 43, out of a total loss of 61 deaths, two only having been due to explosions. In the same district there were no less than 154 persons injured by falls of roof and shafts, against 48 by explosions, and a total number of injuries of 315. In the Western District of Scotland "falls" occasioned 38 deaths of a total from all causes of 58. In the Newcastle district "falls" proved fatal to 24 persons, out of a total of 62 deaths underground, whilst in the Yorkshire and Lincolnshire district "falls" proved fatal in 73 cases, explosions proving exceptionally large during the past year, six explosions causing the death of no less than 162 persons.

As we have before stated, for each fatal accident 159,331 tons of mineral were raised, whilst every 118,730 tons cost us a life during the past year. We raised 6,986,431 tons more than in the preceding year, but we lost 188 more lives, so that the present returns are scarcely so favourable in regard to fatal accidents as last year. To bring to bank, however, out of the many and varied dangers of pit life, no less than 118,730 tons of minerals is a praiseworthy indication of our mining and engineering skill and science, which we believe is not proportionately equalled in any other country in the world; whilst, if the number of fatal "falls" were reduced to anything like proper proportions, the results would be such that all connected with our mines might be legitimately proud. The prohibitory use of blasting in all fiery veins, and the greater precaution in propping both in roofs and sides of shafts, appear the practical lessons which should be drawn from the Inspectors' reports for the past year; and as they are easy and feasible of adoption, we feel sure that all who are engaged in the dangerous avocation of under ground life will feel it both their pleasure and their duty to carry them out to the very best of their ability.

LARGE COAL AND SMALL.

Last week we reported the visit to Wigan of the South Wales Institute of Engineers, even as upon previous occasions we have reported the visit to Wales of similar institutes upon this side of Monmouthshire, together with exchange visits between English mining engineers at home. We do so with much satisfaction, persuaded that no such visit can be paid without the science of mining being promoted; for it is impossible for the men of one coal field to make a pilgrimage to another coal field without learning something which in the end shall promote the advancement of the profession, and make coal mining less hazardous and less costly. That which is true of the exchange visits of mining engineers would be hardly less true of exchange visits between colliery owners and between colliers and men of their own order working in separate districts. Each in their several sphere may learn from the other that which would benefit the common industry. This we venture to assert will receive confirmation in what we cannot but believe will come about in relation to the Northumberland and the South Wales steam coal industry. On Saturday a deputation of the miners of Northumberland waited in Newcastle upon the committee of the Steam Coal Trade Defence Association in virtue of the express wish of the owners that the men should meet them "to discuss the desirability of sending a deputation of masters and men to Wales, to enquire into the method of working steam coals there, and particularly the system employed in the separation of the best coal from the small, with a view, if necessary, to adopt a similar method in the county of Northumberland."

One of the ever-present efforts of careful colliery managers is to increase the quantity of large as compared with small coal; and he is in every way the most desirable hewer whose daily work yields the smallest proportion of slack. Unhappily, efforts now and again made alike by employers and managers to increase in this way the value of the work for which these men are paid are not invariably attended with success. Some districts have, however, secured a comparative perfection, which is worthy of the attainment also by others. And it would be eminently to the advantage of these others—men as well as masters—that it should be so. Of this abundant proof is furnished in the case under review. It admits of little or no question that the steam coal district which has been most successful in its efforts to increase the proportionate output of large coal is South Wales. To bring about the same system in Northumberland the Northern masters now desire, and they ask the co-operation of their men. The men are not solicited to work for less wages than they now receive; on the contrary, the masters wish them to adopt a plan by which their wages may be increased. The Northumberland owners offer to pay the same scale for round coal alone as they pay for round and small. For example: assuming that one-third of the coals now sent away is small, they would pay nothing for small in future, but pay one-third more for round—exactly the same sum they are now paying for small and round. All, therefore, that is needed on the part of the men to earn wages is that they should increase in their care to send away better coal. A 10 per cent. advance would be secured if the men should send away 10 per cent. less of small.

That all this could be done without any undue pressure being put upon the men the masters in Northumberland are convinced. And they believe that the men can satisfy themselves of it by informing themselves of what is being done in South Wales. In pursuance of the spirit of conciliation and fairness which is so characteristic of the dealings of the Northumberland coalowners with their splendid lot of workmen, they now propose that the men should send a deputation to Wales, and assure themselves of what is there being done. We cannot believe that so reasonable a suggestion will be unheeded. Nay it will, we assume, be readily acted upon, and that by the time next Saturday arrives the Northumberland miners will have expressed their readiness to do all that the masters recommend in their preliminary application: 2s. 9d. per ton for small, free on board, the men cannot but admit is a price which is ruinous; and seeing that no better price can be got in the North, the men must unite with their masters in increasing the proportion of that class of product of the pits now yielding a profit to employers which permits of labour being employed.

IRON IN THE UNITED STATES.

The continued prostration of the American railroad interest is forcibly reflected in the fact that although the Americans have become much less dependent for their supplies of rails upon this country, their own production of rails was scarcely increased proportionately in 1875 as compared with 1874. Thus the aggregate quantity of rails of all kinds made in the United States in 1875 was 792,512 tons, as compared with 720,413 tons in 1874. On the other hand, the imports of railway iron from Great Britain into the United States declined last year to 17,789 tons, as compared with 94,491 tons in 1874. The difference between the increased production of rails in the United States last year, and the diminished imports into the United States of railway iron from this country was certainly not very material; nevertheless, the fact appears to be tolerably conclusively established that there was no real improvement in the condition of the American railroad interest in 1875. Nearly three years have now elapsed since the memorable collapse of the Northern Pacific Railroad in September, 1873. That collapse was the signal for a suspension of the feverish prosecution of premature American railroads, which was a prominent feature in the social life of the United States in 1872 and 1873. Up to the autumn of 1873 there was a gradual increase in the consumption of home and foreign railway *matériel* in the United States. The American rolling mills, which had not then by any means attained the development which they have since acquired, were quite unable to supply the extraordinary demand which prevailed for rails in the United States in the spring and summer of 1873. But that demand was an exaggerated one, it reposed on no sure reliable foundation, and when the crash came in September, 1873, it was all the more fatal in its effects; in other words, vertiginous activity brought in its train an almost unexampled depression.

One remarkable current feature in the production of rails in the United States is the great progress which is being made in the manufacture of steel rails, while—as is the case in Europe—the production of iron rails appears to be positively declining. Thus in 1875 steel rails were made by the Americans to the extent of 290,862 tons, as compared with 144,944 tons in 1874. The production of steel rails is accordingly shown to have doubled during the past year. On the other hand, the production of iron rails in the United States declined from 584,469 tons in 1874 to 501,649 tons in 1875. One circumstance which stimulates the production of steel rails in the United States is the resolute determination of the Americans to steel their main lines; but, on the other hand, it must be confessed that the American railroad interest is suffering, not only from the collapse of scores of "premature" western lines, but that it is also grievously tried by the inveterate—not to say insane—competition for freights which prevails among the old established companies, such as the Erie, the Pennsylvania, the Baltimore and Ohio, and the New York Central. The disquieting legislation attempted by the legislatures of some of the western States, by which those States sought to fix rates and fares almost at their discretion, has also had a bad effect, although the crude ill-considered measures adopted for the attainment of this object have now been for the most part repealed. Sooner or later, however, the American railroad interest must revive. The tide of American life must roll more and more westward as the years advance; and as the wilderness is opened out, more western railroads must be opened out also.

For the rest, the iron trade of the United States made a less rapid advance last year than might, perhaps, have been anticipated. In some branches the production effected exhibited, indeed, a positive declension. Thus while 2,689,413 tons of pig-iron were made in the United States in 1874, the corresponding production declined in 1875 to 2,266,581 tons. Cast and other steel was made by the Americans to a larger extent than ever last year.

EXTRAORDINARY TESTS ON IRON AND STEEL PLATES.—In last week's Journal we gave a report of the very interesting visit of the South Wales Institution of Mining and Mechanical Engineers to the Wigan district, and we since learn that, having obtained permission of Mr. Adamson to visit his works at Hyde, a number of gentlemen proceeded to Hyde Junction, and after inspecting the engine works, where engines in various stages of manufacture were seen, and the extensive boiler works, some interesting experiments were made by Mr. Adamson to show the durability of metals by percussive force. Plates of equal thickness in iron and steel were operated upon by guncotton. A ⅜ iron plate being placed on a cast-iron block dished out, having a charge of 3 lbs. of guncotton suspended and fired just above it. In the experiment on the iron plate the percussive force could not be resisted, the plate being entirely blown through, and though dished in the centre, or depressed to a segment of a circle 4 in. deep, the dish was blown out of the plate and was otherwise much torn and fractured. But in the case of the steel plate under similar conditions the plate was depressed or dished to the full extent of the block, and left entirely uninjured and with a perfectly clean surface, thus demonstrating the superiority of steel over iron plates for boilers and other manufactures.

MINING IN SCOTLAND.—The operation of sinking a new shaft at the Dysart Collieries was commenced about two years ago, but on account of the excessive flow of water was suspended, when about half the depth had been reached, till a new pumping-engine had been erected. This having now been accomplished, the machine was put in motion last week. The cylinder weighs 20 tons. The piston is 100 in. in diameter, with 13 ft. of stroke, and steam is generated in five boilers, constructed with Galloway tubes, and the engine is over 300-horse power. The shaft will be sunk to the depth of 120 fms. to the Dysart main coal, which is upwards of 30 ft. in thickness. The probable cost of this heavy undertaking will be about 35,000*l.* before any return can be got. The Earl of Rosslyn has forwarded instructions to Mr. James M'Lay, coal manager, Dysart, to make preparations to receive the Duke of Buccleuch and the Marquis of Lothian, who are to examine the works.

GOLD IN WESTERN AFRICA.—At the meeting of the Royal Geographical Society, held at Burlington House, under the presidency of Sir Rutherford Alcock, K.C.B., on Monday, Captain J. S. Hay, Assistant-Inspector of the Armed Native Police on the Gold Coast, read an interesting paper on the district of Akem, in West Africa. In the course of his observations, which were listened to with much attention, Capt. Hay stated that the country of Akem is auriferous in a high degree. The natives, however, are too ignorant and too lazy to work the gold properly, and content themselves with digging circular holes, from 16 to 20 ft. deep, to obtain it in the shape of small nuggets and dust, the latter being also found in the rivers and water-courses, where Capt. Hay himself has seen them washing it. The country is literally honeycombed in some parts with these gold holes, which make walking a difficult and sometimes a dangerous operation. The soil is a heavy tenacious red clay, quartz strata, and red sandstone cropping up in all directions. We believe there is some possibility of Capt. Hay reading a paper on the Akem district before the British Association at Glasgow in September, when we trust he will give fuller particulars respecting the mineral resources of the country.

COLLIERIES.—The Société de l'Industrie Minérale recently held a Congress at Douai. Their purpose was to examine the coal beds of the Department of the Nord. There were 300 persons present, managers and engineers from various parts of France and from abroad, chiefly from Belgium. M. Gruner, in the course of a long speech on the production and consumption of coal, dwelt at some length on the probable exhaustion of English mines. In England, he said, the production of a man per annum was 300 tons. In Prussia and France, in the more favoured districts, it was 200 tons, while in Belgium and the Nord, where the beds were poor, the production seldom exceeded 150 tons. In England in 1872 400,000 men were engaged in producing 120,000,000 tons. It had been calculated that if the production continued to increase at the rate of the last 40 or 50 years it would reach 4,000,000,000 tons in the year 1950, so that the mines would be exhausted before the end of the next century. He pointed out that to produce these 4,000,000,000 tons, even at the rate of 300 tons per man, 13,000,000 workmen would be employed, and if their families were added at the rate of five to one, the total population engaged in mining in England in 1950 would be about 65,000,000. Such figures show the absurdity of the theory. He would estimate the maximum production of England for all times at 250,000,000 tons, which would assume 1,000,000 miners, or 5,000,000 of the population engaged. In France the maximum would be much less, scarcely more than 30,000,000 tons. In Belgium the maximum was nearly reached at 15,000,000 or 20,000,000 tons. Though the continental production was small, he would expect the English mines, even at the high maximum of production he assumed with 250,000,000 tons, to last for eight centuries to come.

COAL AND IRON IN THE UNITED STATES.—The deliveries of anthracite coal from the various districts in Pennsylvania to June 3 this year amounted to 6,492,428 tons; the deliveries of bituminous coal in the same period were 1,361,040 tons, making an aggregate of 7,853,468 tons. The corresponding deliveries in the corresponding period of 1875 were as follows:—Anthracite, 5,334,634 tons; bituminous, 1,341,523 tons, making an aggregate of 6,706,157 tons. The deliveries have thus increased this year 1,147,311 tons. At Boston the market for Scotch, English, and American cannel coal has been quiet, and scarcely any sales have taken place, except of retail lots. Nova Scotian coal has been dull at Boston, and there has been little prospect of improvement. The demand for Cumberland (Maryland) coal has been moderate at Boston, and prices have been steady at $3·50 to $3·75 per ton delivered at Georgetown and Alexandria, and $3·75 to $4 per ton delivered at Baltimore. Anthracite coal has been dull at Boston, and sales have been limited. American rails have been quoted at the works at $40 to $43 per ton currency, while old rails have brought $21 to $22 per ton currency. The Cambria Ironworks, Pennsylvania, have delivered 1137 tons of Bessemer steel rails to the Pittsburg, Fort Wayne, and Chicago Railway.

COAL, CINDERS, AND PATENT FUEL.—The annual return of shipments and declared value thereof during 1876 has just been issued. It appears that the shipments from port to port within the United Kingdom amounted to 10,695,915 tons of coals, 13,592 tons of cinders, and 28,864 tons of patent fuel, together 10,728,371 tons. Of this 2,623,173 tons were shipped from Newcastle, and from Sunderland 2,023,335 tons; Cardiff comes next with 756,091 tons, then Hartlepool with 664,841 tons, and next Newport with 654,949 tons, no other port reaching 500,000 tons. The exports to foreign countries were—Of coal, 13,978,956 tons, of the value of 9,155,801*l.*; of cinders, 307,629 tons, of the value of 295,806*l.*; and of patent fuel, 258,331 tons, of the value of 203,681*l.*; together, 14,544,916 tons, of 9,658,088*l.* The largest quantities were taken by France, 2,706,210 tons, for 1,617,038*l.*; Germany, 2,172,384 tons, for 1,273,624*l.*; and

Italy, 1,006,453 tons, for 647,956*l.* The quantity of coals brought into the port of London during 1875 was 3,134,846 tons coastways, and 5,079,511 tons by inland navigation and by railway=8,214,357 tons, and 20,132 tons of patent fuel.

PRICE OF COAL IN 1740.—At the present time, when the dearness of coal is a general complaint, it may be worth stating that in 1740 Mr. Fletcher and other owners of collieries at Heanor, Smalley, and Denby, were accused of monopolising the sale of coal. They stoutly denied the accusation, and offered to supply any person with coal at 2s. 6d. to 5s. per ton for 40 years, and to give security for the same. At one of the collieries in the neighbourhood of the places mentioned the price of coal is 18s. per ton, and some time ago it was 14.—*Sheffield Independent.*

REPORT FROM CORNWALL.

June 29.—Looking ahead just now appears to be a remarkably unproductive operation, for there is nothing certain to be got out of it, and the best we can gather is that matters do not appear likely —notwithstanding the great and general depression—to get any worse, so far as our mining is concerned. There is often, however, a good deal to be learned by a retrospect, and the report of our Inspector of Mines (Dr. Foster) supplies us with valuable materials for this purpose. This year, thanks to the amendment of the Metalliferous Mines Amendment Act, Dr. Foster has been able to distance Mr. Hunt in making known the mineral produce of Cornwall and Devon for 1875. Dr. Foster's report is, of course, imperfect in this sense, that it only deals with mines proper; but his figures require little more than the addition of the 1100 tons or so of black tin which the Red River works are said to have yielded during the year to make them substantially complete.

There were within Cornwall and Devon in 1875 (excluding tamping stone and clay pits) 255 metalliferous mines. Cornwall had 193. Of these 96 were of tin—nearly one-half; 37 of tin and copper; 3 of tin and arsenic; 15 of copper; 17 of iron; 8 of lead and silver-lead; 2 of lead and zinc; 3 of manganese; and 1 each of tin and lead; copper and zinc; copper, lead, and zinc; silver; arsenic, copper, tin, and silver; copper and iron pyrites; tin and iron pyrites; silver-lead and copper; zinc and iron; lead and iron; lead and copper; and tin, copper, wolfram, cobalt, and bismuth. In Devon there were 62 mines, of which 10 were of tin; 8 of copper; 10 of manganese; 7 of silver-lead and lead; 2 of copper and iron; 5 of copper and arsenic; 2 of arsenic; 17 of iron; and 1 of umber.

We are not surprised to find that the returns of mineral in nearly all particulars show a falling off as compared with 1874. The wonder is rather that they have kept up so well. Copper ore may seem to present an exception, but the apparent increase is due solely to the fact that statute tons are reckoned in 1875 against customary tons in 1874. The arsenic really does compare more favourably, the figures for 1874 referring chiefly to crude arsenic, and those for 1875 to refined. The chief totals for 1875 are:—Black tin, allowing for 796 tons in the stone sold, 12,611 tons, or, with the Red River produce, a total yield of about 13,700 tons; zinc ore, 2988 tons; arsenic, 3783 tons; arsenical pyrites, 12,948 tons; copper ore, 53,829 tons; iron ore, 60,955 tons; lead ore, 2883 tons; manganese ore, 3725 tons.

The mineral returns for each county for 1875, as compared with 1874, are as follows:—

	Cornwall.		Devon.	
	1874.	1875.	1874.	1875.
Arsenic.....Tons	2,133	2,286	2,086	1,497
Arsenical pyrites	—	6,721	—	6,227
Copper ore	37,980	39,637	12,770	14,493
Copper precipitate	—	41	—	—
Fluor spar	—	—	609	324
Iron ore	37,649	9,034	17,587	9,994
Iron pyrites	2,119	315	710	109
Lead ore	3,109	2,553	501	330
Manganese ore	25	14	5,391	3,709
Ochre and umber	207	6	515	920
Silver ore	3½	—	—	—
Silver precipitate containing copper	1¼	1¼	—	—
Black tin	12 464	11,095	130	120
Tinstone	20,896	25,205	—	—
Tungstate of soda	22	—	—	—
Wolfram	33	45	—	—
Zinc ore	693	2,988	—	—

It should be explained that in 1874 the arsenical and iron pyrites are classed together.

There is a very apparent decrease in the number of persons employed, and hence the depression is more evident than in the returns of produce. The total number employed in and about the mines was 22 134, a decrease of 2132 on the previous year. There were employed in Cornwall 19 254—10,934 underground, and 9190*l.* above. In Devon, 2610—1361 underground, and 1249 above. There were only 46 boys under 13 employed underground in the two counties; and 953 between 13 and 16. Above ground there were employed, between 8 and 13, 726 boys and 282 girls; between 13 and 18, 1895 males and 1077 females. The total number of females employed, all above ground, was 3369 in Cornwall, and 240 in Devon. That there should be this falling off in the number of hands is not to be wondered at, seeing, as Dr. Foster points out, that mineowners are now getting for their produce less than half what they received four years ago, and that the net average earnings of tutwork men, per four-weeks month, has fallen from 4*l.* 1s. 6d. in 1873 to 3*l.* 13s. 7d. in 1874, and 3*l.* 10s. in 1875. The average time of working per week is, however, but five shifts of eight hours each.

Accidents occurred in much the same ratio as in 1873, and the total number of deaths was 46. The non-fatal accidents show a large apparent increase—85 in 1875, against 52 in 1874, but Dr. Foster attributes this in the main, if not wholly, to the fact that the Act is more strictly complied with in reporting such occurrences. It is abundantly clear that a considerable proportion of these accidents is due to the carelessness of the sufferers themselves. However, the Act is very clearly working well, and is being very judiciously administered by the Inspector.

Dynamite caused no accident during the year, but several casualties were due to explosions of gunpowder. To these Dr. Foster directs especial attention. Explosions during tamping almost invariably happen while the first, second, or third layer of tamping is being rammed in; and, in Dr. Foster's opinion, the fire is conveyed from a spark by a train of loose powder, lying either in a cavity or fissure, or else at the side of the fuse. If swabbing is done carelessly dangerous little trains may be left. These accidents, Dr. Foster remarks, would be avoided by the prohibition of loose powder, and by the introduction of the charge in paper bags, though he fears it would be impossible to get this practice introduced. The use of copper instead of iron charges should, however, be made compulsory. Dr. Foster does not hold the "compression of air" theory in regard to those explosions, but that they arise from the production of sparks.

The mention of dynamite reminds us that Mr. W. H. Rule's energetic efforts after mining reforms have brought him acquainted with the Lord Mayor of London, before which high official he has been summoned for certain technical breaches of the law in regard to the importation of dynamite detonators. Mr. Rule has a license for storing dynamite, and was not aware that he required one for importation. So he imported 96,000 detonators, which were seized by the Custom House officials. Mr. Rule, when brought before the Lord Mayor, explained that he had acted in ignorance of the law. He had to be fined for importing the caps without a license, but the Lord Mayor suggested that as Mr. Rule had acted honestly in the matter probably the Government would not insist on the forfeiture of the goods.

The Royal Geological Society of Cornwall has taken a practical, important step in offering a prize for the best essay on any mine or mining district of Cornwall, giving a full description of the lodes, with their direction, underlie, variation in composition and productiveness, and of the enclosing country. The essays are to become the property of the society.

The medal of the Society of Arts has been awarded to Mr. Charles P. Fryer, of the Home Office, for the establishment of a new industry in this country, which is now being carried on by the Cornish Sardine Company, of Falmouth, and consists in the preservation of pilchards in tins, after the manner of French sardines. Mr. Fryer's experiments practically proved the identity of the pilchard with the sardine, those fish, which abound on our south-western coasts, having hitherto been practically ignored as food.

TRADE OF THE TYNE AND WEAR.

June 29.—There is no important change in the state of the Coal and Iron Trades. Best steam coal retains its value; house coal is, however, rather likely to decline a little. The demand for coke continues steady at late rates. An important meeting was held at the Coal Trade Office in Newcastle on Saturday, when the Northumberland coalowners were represented by Mr. Henderson, of Durham, Mr. H. Taylor, and others, and several delegates from the men attended. The object of the meeting was to discuss the question of round and small coals produced at the steam coal works. At present the price of round coal is comparatively low, while that of small coal is nominal, and the price received does not meet the cost of working. It is, therefore, intended if possible to devise some means of increasing the quantity of round coal and reducing the quantity of small coal produced. The masters propose that a committee be appointed composed partly of owners or viewers and partly of men appointed by the miners, and that the committee should visit South Wales and inspect the mode of working the steam coal there, as it is understood that much less small coal is produced by the method of working adopted in Wales than is produced by the methods pursued in the North. The men have not yet adopted the suggestion of the masters, but it is hoped that they will do so, as such an enquiry is likely to result in great benefit to both parties concerned. The Durham miners have decided by a considerable majority to accept the offer of the masters to submit the question of a further reduction of wages to arbitration. The question has been decided by means of the ballot, and 20,000 men voted in favour of arbitration and 16,000 for striking. There is now, therefore, a reasonable hope that this difficult question will be amicably settled.

The miners of Durham county intend to hold their usual annual holiday at Durham, on Monday, when there will be a great muster, and a number of able and influential men are expected to address them. The programme includes the names of Mr. Burt and Mr. Macdonald, and although it must be matter for regret that the coal trade is so much changed since this holiday was first kept, the only course to be taken by the men is to make the best of their adverse circumstances, and hope for better times. There is no doubt that the several speakers will give valuable information and good advice to the men.

The pumping operations at the new wing at Whitburn have been going on vigorously lately, but with very poor results. An enormous quantity of water has been lifted. The depth is now 27 fms., and sometimes for long periods upwards of 10,000 gallons per minute have been lifted—a larger quantity, no doubt double that lifted at any previous sinking. The amount of the feeders, therefore, renders the task of keeping them under so as to get the shafts down almost hopeless. It is supposed by some that as the shafts are situated very near to the sea the fissures in the limestone communicate with it, and if this view is correct the attempt to sink shafts at that point is likely to prove a failure.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

June 29.—There is nothing of a satisfactory nature to report this week with regard to the staple trades. Clearances of iron are about up to recent averages, and some orders for South America are being executed. Another shipment of rails has taken place to Russia, but for reasons which were explained last week there is no hope now of any extensive orders from that quarter. The home demand is at present small, and as for transatlantic demand it continues almost *nil.*

In the Tin-Plate Trade the same unfortunate state of affairs exist, and, notwithstanding the low prices which prevail, orders are still scarce. At the meeting of manufacturers this week at Swansea it it was resolved to carry out the present restriction of make for another quarter. A number of letters were received from manufacturers, some proposing to reduce the make to one-third, and some two-thirds, while some intend to close altogether for the next month or six weeks.

The Coal Trade is as unsatisfactory as ever. The demand does not improve, prices are still complained of as being unremunerative, and the demand has decreased for house qualities. The general feeling of the men, so far as can be at present ascertained, is in favour of paying the sixpenny levy towards the expense of printing the shorthand writer's notes, &c., of the Conciliation Board's proceedings during the last six months. More notices to terminate contracts have been given at various collieries, *inter alia*, at those belonging to the Ystalyfera Coal and Iron Company, and at Hendreforgan Colliery, Cwmtwrch, Swansea Vale. The Main Colliery Company having recently won the Four foot seam at Upper Loughor now contemplate making a branch line to connect the colliery with the main line of the Great Western Railway.

Although the trade of the district is now so depressed, it cannot but be regarded as a hopeful sign that one has so frequently to report the promotion of new colliery undertakings. The last of these has been the cutting of the first sod of a new pit in the Garew Valley, and which is situated near Bridgend, and denominated "No. 1 Pit, Falda Steam Coal Company." The Duke of Beaufort intends to oppose the passage of the Wye Valley Company's Extension Bill through the House of Lords.

A delegate meeting representing the colliers of this district was held at Merthyr, on Monday. Mr. William Abraham, president of the Union, was in the chair. It was agreed to shortly hold meetings throughout all the branches of the Union. The leaders of the Union are now fully aware of the fact that the principles they have so carefully inculcated are beginning to die out in the minds of the men, who are at last awakening to the truth—that unreasonable resistance to fair reductions has been the means of driving a great part of the trade from the district. The number of non Unionists may now be said to be less than those within the pale of the Union, and thus further agitation by means of public meetings has been determined on.

A colliery explosion, by which some seven or eight men were seriously injured, occurred at Ebbw Vale on Tuesday night. The pit in which the explosion of firedamp occurred belongs to the Ebbw Vale Company. Recklessness on the part of one of the men, in going into a heading with a naked light, is said to be the cause of the accident. It is stated that a warning had previously been posted.

The case of the Maesteg Merthyr Colliery Company has come before the Chancery Division in the form of a motion made for substituted service of motion. The mortgagee of certain of the company's property, Mr. Davis, was desirous of making the secretary of the company a party to a redemption suit, but was unable to serve him with a legal process. Leave was given for substituted service.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

June 29.—The extent of business doing in the Iron Trade of this district has not much improved since our last report, but rather more enquiries are afloat, principally for marked bars and other good qualities of finished iron. It is not very probable that any orders of importance will now be placed before the quarterly meetings of the trade, which will be held a fortnight hence, but many experienced members of the trade are of opinion that an improvement will be seen in the ensuing quarter, and that during the autumn there will be the beginning of a revival in the iron trade. It is being pointed out that branded finished iron is lower by 2*l.* per ton than at this time last year, and that no further reduction seems at all probable, if possible, in the price of coal. There is, therefore, no probability of any change being made in the price standard now current on Quarter-day. For the moment the state of the iron trade is truly discouraging. The yield both of pig and finished iron is reduced to a minimum, and yet the demand scarcely suffices to absorb it.

The South Staffordshire Coal Trade is very flat. Numbers of colliers are wholly unemployed, and the rest are only working about half-time. Many of the pits in the Bilston district, which were affected by the difficulty about drainage, have been permanently shut down, and this action must be taken in regard to many other collieries if Messrs. Sparrow persist in their present determination to stop the powerful pumping-engine at Stow Heath.

The value of shares in local coal and iron joint-stock concerns continues low. The following were included in to-days quotations on the Birmingham Exchange:—Cannock and Huntington Colliery, ½ dis.; Hamstead, 1 prem.; Mid-Cannock, 4¾ prem.; Perry, 1 prem.; Sandwell Park, 25½; Spon Lane, ½ dis.; West Cannock (new), 2 prem.; J. Bagnall and Sons, 5; Chillington Iron, 3¾; Patent Nut and Bolt, 7½ prem.; Patent Shaft and Axle, 2⅜ prem.; and Staffordshire Wheel and Axle, 2½ prem.

The finished iron trade of North Staffordshire continues pretty much in the condition we have had to report for several weeks past. Orders come in irregularly, and of small aggregate extent. Business is, however, no worse, and what slight change there is may be pronounced satisfactory. A few additional mills have been at work. The plate mills have been fairly employed, a few fair orders having been given out, but each week's end sees the order-books left very bare. Prices are rather weak, and masters say almost totally unremunerative. Crown bars are quoted at 8*l.*; best, 8*l.* 10s.; ship and bridge plates, 10*l.*; and boiler plates, 10*l.* 10s. Delivery equal to Manchester, Birmingham, or Liverpool; but in some cases a little lower has to be accepted before makers could secure the orders for this district. The Coal Trade continues very dull, and prices have a somewhat downward tendency. Notwithstanding the number of colliers out on strike, not the slightest difficulty is experienced in obtaining coal; in fact, at many places the output exceeds the demand.

The directors of the Bridgewater Navigation Company (Limited) have made arrangements with Messrs. Fellows, Morton, and Co. for the working of the company's business in Birmingham, South Staffordshire, and between these places to Ellesmere Port, Runcorn, and Manchester, from this date, July 1. The firm in question have for many years done a very extensive carrying trade in Birmingham and South Staffordshire.

PELSALL COAL AND IRON COMPANY.—The annual meeting of shareholders was held at the Queen's Hotel, Birmingham, on Friday, under the presidency of Mr. B. Bloomer, managing director. All the other directors were present. The Chairman directed attention to the part of the report relating to the valuation of the stocks, and said the prices at which they were valued represented a sum less by 2500*l.* than the sum they would have stood at had they been valued at the prices ruling twelve months before. The wages question had kept them at a disadvantage all through the year, for, although there had been reductions, the first had not come about until the second should have been in force, and so on; but he thought it might be said that the management was better than it had ever been since the formation of the company. He then justified the issuing of the statement by the directors six months ago that a dividend might be looked for, stating that at that time they were selling iron at better prices than had ruled for some time previously, and that their customers were laying in stocks in anticipation of a rise which never came. Dr. Watts regretted the adverse character of the report, but said it was a fact, and the shareholders might get some satisfaction from it, that they were not suffering alone, many companies being unable to pay a dividend this year. He then dealt with the several adverse circumstances mentioned in the report, spoke highly of the value and condition of the company's property, and expressed a confident belief that under ordinary circumstances the company would pay a good dividend. After some enquiries in reference to different items in the balance-sheet had been answered by the directors and auditor, the report was unanimously adopted. Mr. W. Underhill and Dr. Watts, the retiring directors, were re-elected, as were the auditors (Messrs. Chadwicks, Adamson, Collier, and Co.), and a vote of thanks to the Chairman having been awarded, the proceedings ended.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

June 29.—Very little that is really new has transpired in Derbyshire mining circles during the week, the absorbing matter being that relating to the Shirland Colliery, which belongs to the South Yorkshire Miners' Association, and of which Mr. John Holmes is the managing director. The colliery company was established for the purpose of being a model one on the co-operative principle, and the prices to be paid to the men were such as were to be taken as the standard by independent colliery owners in the same district. It has turned out, however, that instead of being a model mine it is one that has neither paid the owners, nor anyone connected with it. Wages recently have been lowered to a point below that of other places, and the colliery belonging to a very strong body of unionists is now being worked by what are termed "black sheep;" and Mr. Holmes is advertising for men to come and work at it who are favourable to the principle of co-operation. He offers an advance of 10 per cent. on the wages of 1871, whilst some other collieries are paying an advance on those rates of from 15 to 25 per cent. The coal trade in nearly all parts of Derbyshire is anything but brisk, and prices have reached a very low point. In Sheffield, business in the lighter trades is very quiet. In heavy armour plates the two great firms of Browns and Cammells are doing very well, and in the present state of the Continent they are likely to continue so. In South Yorkshire the miners at Manvers Main, Swaithe, and Elmunds, are still on strike against the award of the umpires. On Tuesday, in Vice-Chancellor Malins' Court, Mr. Lodge, Chairman of the Stanhope Silkstone Coal Company was declared to be the purchaser of the Silkstone Main Colliery (near Barnsley), recently belonging to the Coal Consumers' Company, for the sum of 50,500*l.* This will have the effect of saving the Stanhope Company from sinking a couple of shafts.

The annual meeting of the great Sheffield iron and steel company (John Brown and Co., Limited) was held at the works, on Wednesday, under the presidency of Mr. J. D. Ellis, the chairman, who moved the adoption of the report and statement of accounts. Mr. Pochin, one of the directors, seconded the motion, which was agreed to. In seconding a motion for the declaration of a dividend of 10 per cent., Mr. C. P. Stewart spoke of the nine-hours system as a great disaster, and said until manufacturers could recover from it, larger results than 10 per cent. could not be expected. He recommended every employer of skilled labour to endeavour to bring about the re-establishment of ten hours as a day's work, and said until they could do that they would never see the trade of the country in the state in which it ought to be. The retiring directors were all re-elected.

THE COLLIERY EXPLOSION NEAR SHEFFIELD.—An official inspection has been made of the Birley Colliery, at which an explosion occurred on Monday, killing six men. There were present—Mr. Stokes, Government Inspector; Mr. S. W. Jeffcock, mining engineer; Mr. Mosby, manager; and a number of officials of the colliery. No doubt was left on the mind of the inspecting party that the explosion occurred in connection with a fault at the extreme dip workings. At that point the coal had jumped about 8 yards, and a shaft had been opened upwards to follow it. At the top of the shaft the coal had been followed 90 yards, and it is believed that in this part the gas had accumulated, and when the men came there to commence work it fired at their naked lights. Whether those parts had been thoroughly inspected shortly before will be the subject of enquiry. The colliery is situated on the borders of Derbyshire and Yorkshire, and three of the men killed lived in one county and three in the other.

REPORT FROM THE FOREST OF DEAN.

June 28.—In our present communication we propose giving a condensed report of drainage works at Cinderford, including a short review of previous proposals. During the last eight or nine years a discussion has been going on, interrupted by occasional breaks, on projected improvements, embracing drainage works, new roads, and water supply, and with the ostensible design of planning, devising ways and means, and carrying out the said improvements a local board was formed, and existed for a considerable time; but the members never agreeing sufficiently long at a time on any one proposed improvement, nothing definite was accomplished. The majority of the members on the board consisted of the coal proprietors and members of firms of the leading employers in the district, whose interest it was not to undertake expensive works, as the greater portion of levied rates would be assessed on their own property; and, further, as most of them lived off the ground (Cinderford) where the principal outlay would in the first instance be, the reasons against action to them were far stronger than the reasons for effecting needed improvements. Numerous meetings were held (in the ordinary routine), and discussions carried on, some of which were of an angry and captious description, so that instead of making progress time was wasted, which delays of the board led to the formation of various outside opinions, some declaring the board incompetent, whilst others imputed motives of obstruction, the upshot of the do nothing policy ultimately exciting great opposition among the working colliers, as holding office and making rates were looked upon as a great abuse of official power. It is right to observe, however, that the first rate did not amount to a total of 200*l.*; much the greater part of it being paid by the very men who held office, so that on the score of "burden" the general public had slender grounds of complaint. However, the opposition grew in volume and intensity to that degree that the members of the board became frightened, and under the panic a meeting was called, at which the board dissolved itself and ceased to exist. A second rate was made, but only a small part of it was collected, and though not such a trivial one as the first (which was meant to pay preliminary expenses) the same remark applies to it as to the other—that most of the money raised came out of the pockets of the members. We have been particular in noting this, because ignorant and designing persons have misrepresented the late board in this respect. The errors of the board while it existed did not consist in spending other persons' money by exonsing themselves, but in not proceeding to accomplish the work for which the board was called into existence.

During the board's existence it had its complement of officers—i.e., chairman, clerk, engineer, collector, and treasurer. The engineer surveyed the district and made a number of plans, and also, at the direction of the board, formed one or two schemes for the drainage of the district, but as the board could not agree on

any plan (two were submitted by the engineer), all proposed improvements fell through with the dissolution of the board. The opponents of the board grounded their objections in the waste of money, but the fact was the officers were badly paid, so that after the removal of the authority to Westbury on-Severn the inspector alone received nearly as much (75*l.* per annum) as the staff had received previously.

The board being extinct the sanitary affairs of Cinderford have since been under the Rural Sanitary Authority of Westbury-on-Severn, but little has ever been done by that authority except abating certain nuisances, and enforcing somewhat better privy accommodation than formerly existed. We advisedly said better, because formerly the accomodation in some cases was shamefully bad, but at present in some cases it is much below the requirements and decencies of civilised life. Instead of scanty shabby wooden boxes (something like a policeman's rickety shabby box on a railway, except that the privies are many of them characterised by open cracks, and nearly all unpainted) the owners of cottages should be compelled to construct masonry ones, and large enough for an ordinary sized person to stand upright or turn round in. At present numbers lack these requirements. Still, we believe, we are on the way to further improvement in these particular things, but the improvements in these matters will be very slow unless the attention of officials and the local authorities can be drawn to them as they at present are.

The need of drainage, roads, and water has been more or less felt all along through the last ten years, but about a year and a half ago something more definite was decided upon, so far as preparatory steps were concerned. The Inspector of Nuisances, having to attend meetings at Westbury on-Severn, presented some papers from Messrs. Gotto and Beesley, engineers, of London, the result being that those gentlemen were communicated with, and asked what they would visit Cinderford for and report upon the neighbourhood. They named a moderate sum, and it was agreed that they should come down for the purpose of surveying and reporting, but the sum they agreed for did not cover their expenses by 2*l.* or 3*l.*, which shows proof of their moderation. The amount named as necessary for their drainage plan as first projected was 3000*l.*, but afterwards it was deemed desirable to further extend the plan in view of further increase of population, so it was subsequently modified by extending the plan on through Ruspidge to the side of Blue Rock tunnel, where, between the tunnel and the brook, is a piece of land—2 acres 2 roods 9 perches—which was purchased of Mr. Crawshay by a powder company for 410*l.*, and purchased from the powder company by the sanitary authority for 300*l.* This area is designed for receiving the construction of tanks and the formation of filtration grounds.

It was a lucky event that that land could be had, for there is no other spot in the district so well adapted for the purpose as this identical plot. When the plans and specifications were ready tenders were advertised for, and in due course seven were sent in, the highest being 8035*l.*, and the lowest 5543*l.* The lowest was from a local party, but as the necessary bond was not forthcoming the contract went into other hands. The tenders were opened on the 13th inst., and the one accepted is Mr. J. Dickson's, of Swansea, amounting to 7875*l.* The plans are well prepared, and reflect much credit on the engineers, who are men of professional repute, having already constructed or carried out by their superintendence important works, including the drainage of Rio Janerio, and now have the contract for conducting works at Lisbon and other places. The Cinderford drainage scheme includes Cinderford, Ruspidge, Flaxley, Meend, Hinder's Lane, and Dockham, and covers an area that will require 8½ miles of pipe sewers. The pipes range from 6 to 18 in. The mains will occupy 4 miles, and the connecting branch pipes 4½ miles. The contract is to be finished within eight months, under a penalty of 2*l.* per day. As the work advances payments will be made to the extent of 80 per cent., until 300*l.* have been reached, when a summing up will be made. All materials will be subject to approval, and if approved are to be the property of the sanitary authorities as soon as on the ground, but if not approved will have to be taken away again within 48 hours. The engineers will visit the works every fortnight (or oftener if necessity requires), and the intelligent and urbane Inspector of Nuisances, Mr. Spence, will act as clerk of the works.

We should like to have added something on the expenses as affecting the inhabitants of the three parishes—East Dean, Flaxley, and Hinder's lane and Dockham—but space and time prevent us doing so in the present report, and therefore we must defer doing so until our next, which, perhaps, may be sent to the Journal next week.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week the market has remained quite neglected. In shares of iron and coal concerns Monkland have advanced 12*s.*, ditto 7 per cent. preference and Marbella each 5*s.*, Omoa and Cleland 2*s.* 6*d.*, and Benhar 1*s.* 3*d.* Lochore and Capledrae have, however, declined 5*s.*, and Ebbw Vale 10*s.*, after being 1*l.* lower at one time. A report of the proceedings at the Monkland meeting, on Friday, is given elsewhere. Andrew Knowles and Sons are at 1⅜ prem.; Antrim Iron Ore "A," 2¼; ditto "B," 1⅞; Bolckow Vaughan "B," 37; Brynmawr, 8; Cairntable, 8; Chapel House, 5⅞. 9*d.*; Darlington Iron, 40*s.*; John Bagnall and Sons, 5; Llynvi Tondu and Ogmore, 21; Pelsall Coal and Iron, 7⅞ dis.; Richards and Co., 4¾; Scottish Australian, 28*s.* 9*d.* to 33*s.* 9*d.*; South Wales Smelting and Colliery, 10; and Clee Hill, 2*s.* In shares of foreign copper concerns Cape are reduced 30*s.*, and Canadian Pyrites 6*d.*, while Tharsis have improved 12*s.* 6*d.*; ditto (7*l.* paid), 10*s.*; and Huntington, 4*s.* 6*d.* Kapunda Mining is 1¾ to 1 dis.; San Pedro, 36*s.* 3*d.*; Yorke Peninsula continue scarce; ordinary, 7*s.* to 10*s.*; preference, 17*s.* 6*d.*; ditto (10*s.* paid), 7*s.* 6*d.* The shares of the Thar is Company have now been placed on the Aberdeen, Liverpool, and Manchester Stock Exchanges. In home mines shares there has been a little more doing, but prices are generally weaker. The Glasgow Caradon sale of copper ore on the 22nd inst. realising 1328*l.* 17*s.*, or an average of about 102*s.* 3*d.* per ton, is satisfactory, comparing with 240 tons at 99*s.* 9*d.* last month, and 250 tons at 92*s.* 2*d.*, and 240 tons at 115*s.* 8*d.* in the corresponding months of 1875 and 1874. The shares have improved 1*s.*, at 28*s.* 6*d.* to 29*s.* 6*d.* In regard to the Tankerville Mine, a circular has been issued asking proxies to secure the election of Mr. Greensill, of Wolverhampton, as a director at the annual meeting on the 4th prox. Seeing the proximity of the mine to Wolverhampton, the large quantity of the shares held in that town, and Mr. Greensill's qualifications for the office, it is in the interests of all concerned to acquiesce. The Caldbeck Fells Mine is to be wound-up. Assheton, 7⅛; Bedford United, 14*s.*; Dunsley Wheal Phœnix, 9*l.*; Frank Mills, 10*s.* 6*d.*; Glenroy, 6½; Great Laxey, 17⅛; Gunnislake (Clitters), 2⅝; Killifreth, 19*s.* 6*d.*; Ladywell, 1¼; Llanidloes, 3¼; New Pembroke, 9*s.* 6*d.*; North Laxey, 15*s.* to 18*s.*; Pennerley, 1¼ to 2; Penstruthal, 17*s.* to 18*s.*; Plynlimmon, 4*s.*; Prince of Wales, 6*s.* 6*d.*; Roman Gravels, 14⅛ to 14¾; Rookhope, 16*s.* 6*d.*; South Roskear, 20*s.*, buyers; Tankerville, 9¼; West Tankerville, 35*s.* to 37*s.* 6*d.*; ditto (preference), 40*s.*; West Goginan, 2¼; and West Wye Valley, 4. In shares of gold and silver mines, Flagstaff and Richmond are each reduced 2*s.* 6*d.*, and Emma 6*d.* The Richmond run this week is 850*l.* 0*s.* 0*d.* A remittance of 2500*l.* is advised from the Chicago mine. The Australasian Mines Investment Company want their shareholders to subscribe one new share for every five shares now held to protect their investment in the Mariner's Reef Quartz Mining and Crushing Company, which is likely a proper thing to do; but, as the circular hints, there will be some either unwilling or not in a position to do this, it is not clear why those who do subscribe should give par for a share offering at 50 per cent. discounted in the market. Cedar Creek, ½ to ¾; Chantales, 7*s.* 6*d.* to 8*s.* 9*d.*; Don Pedro, 2*s.* 6*d.* to 3*s.* 6*d.*; Javali, 6*s.* to 7*s.*; Gold Run, 15*s.*; Malabar, 7*s.* 6*d.*; Malpaso, 15*s.*; Pestarena United, 5*s.* 3*d.*; Port Phillip, 5*s.* to 6*s.* 3*d.*; Rica, 1*s.* 6*d.*; Santa Barbara, 29*s.* 6*d.*; St. John del Rey, 370; South Aurora, 8*s.* 6*d.* to 9*s.* 6*d.*; Sweetland Creek, ¼ to ¾ ex div.; Tecoma, 8*s.* In shares of oil companies the only alteration is a further fall of 7*s.* 6*d.* on Young's Paraffin. In shares of miscellaneous companies Scottish Wagon have been dealt in at a reduction of 2*s.* 6*d.* Earle's Shipbuilding is at 23 dis.; Hopkins, Gilkes, & Co., 8½ dis.; Milner's Safe, 11¼; and Patent Shaft and Axletree (pref.), 10½, buyers. Details of the several days' business follow:—

On THURSDAY last a moderate business done. Bedford United, 14*s.*, sellers. Benhar done at 10½, new shares done at 6⅞. Canadian Copper Pyrites done at 1¼, new shares done at 10*s.*, closing 7*s.* 6*d.* to 10*s.* Chapel House, 2½ to 3. Dalmeny Oil, 5 to 5⅛. Eberhardt and Aurora, 8¾ to 9. Emma, 14*s.* to 16*s.* Huntington done from 12*s.* to 13*s.*, closing 12*s.* 6*d.* to 13*s.* 6*d.* Javali, 6*s.* to 6*s.* 6*d.* Killifreth, 19*s.* 6*d.*, sellers. Monkland, 43*s.* to 47*s.*; 7 per cent. preference, 86*l.*, sellers. New Pembroke done at 7*s.* 6*d.*, sellers over. Pennerley, 2 sellers. Penstruthal, 17*s.* 6*d.*, sellers. Pestarena United, 5*s.* 6*d.*, sellers. Prince of Wales, 7*s.* to 8*s.* Richmond, 8¾ to 8⅞. Roman Gravels, 15½, sellers. San Pedro, 1⅝ to 1⅞. South Roskear, 20*s.*, buyers. Sweetland Creek, 15*s.*, sellers. Tharsis, 19¾ to 19⅞, new shares done at 13½. West Tankerville, 38*s.* 9*d.*, sellers; preference, 40*s.* to 42*s.* 6*d.* Wheal Kitty (St. Agnes), 2¼ to 2¾. Yorke Peninsula (ordinary), 7*s.* to 8*s.* 6*d.*; preference, 18*s.*, sellers.; ditto (10*s.* paid), 7*s.*, sellers. Young's Paraffin, 9⅛ to 9⅜. Scottish Wagon (new), 4¼ to 4⅜.

On FRIDAY little business done. Canadian Copper Pyrites, 20*s.* to 25*s.* Chapel House done at 5*s.*, buyers over. Dalmeny Oil, 5 to 5⅛. Don Pedro, North del Rey, 3*s.* 6*d.*, sellers. Ebbw Vale done at 9, closing 9 to 9¼. Eberhardt and Aurora, 8¾ to 9. Emma done at 15*s.*, closing 12*s.* 6*d.* to 17*s.* 6*d.* Frank Mills, 10*s.* 6*d.*, sellers. Glasgow Caradon, 25*s.* to 27*s.* Glenroy, 6¼, sellers. Gunnislake (Clitters), 52*s.* 6*d.*, sellers. Huntington done at 13*s.* 6*d.* and 14*s.*, closing 13*s.* to 14*s.* Javali, 6*s.* to 6*s.* 6*d.* Marbella done at 51*s.* New Pembroke, 7*s.* 6*d.*, sellers. North Laxey, 18*s.* 3*d.*, sellers. Penstruthal, 15*s.* to 17*s.* Pestarena United, 5*s.* 3*d.*, sellers. Port Phillip, 5*s.* to 7*s.* Prince of Wales, 7*s.*, sellers. Richmond done at 8¼, closing 8¼ to 8⅜. Roman Gravels, 14¾ to 15¼. San Pedro, 36*s.* 3*d.*, sellers. Tankerville, 10¼, sellers. Tecoma, 8*s.* to 11*s.* Tharsis done at 19¼, closing 19¼ to 19⅝. West Tankerville, 35*s.* to 37*s.* 6*d.*; preference, 40*s.* to 42*s.* 6*d.* Yorke Peninsula (ordinary), 6*s.* 3*d.* to 8*s.* 9*d.*; preference, 15*s.* to 17*s.* 6*d.*; ditto (10*s.* paid), 7*s.* 6*d.*, sellers. Young's Paraffin done at 9⅛, closing 9¼ to 9¼. Scottish Wagon (new), 4¼ to 4⅜.

On MONDAY (being contango-day) market quiet. Benhar (new), 6⅞ to 7. Bolckow, Vaughan, A, done at 51. Canadian Copper Pyrites, 22*s.* to 27*s.* Chapel House, 5*s.* 9*d.*, sellers. Dalmeny Oil, 5 to 5⅛. Don Pedro North del Rey, 2*s.* 6*d.* to 3*s.* 6*d.* Eberhardt and Aurora done at 9⅛. Emma, 14*s.* 3*d.* to 16*s.* Glasgow Caradon, 28*s.* 6*d.* to 29*s.* 6*d.* Huntington done at 14*s.*, closing 15*s.* to 17*s.* Javali, 6*s.* to 7*s.* Malpaso, 15*s.*, sellers. Marbella, 51*s.* 6*d.* to 52*s.* 6*d.* Monkland done at 45*s.* North Laxey, 16*s.* to 18*s.* Pennerley, 40*s.*, sellers. Penstruthal, 15*s.* to 16*s.* 3*d.* Pestarena United, 5*s.* 3*d.*, sellers. Plynlimmon, 4*s.*, buyers. Prince of Wales, 6*s.* to 8*s.* Richmond done at 8⅛, closing 8 to 8¼. Roman Gravels, 15⅛, sellers. Santa Barbara, 29*s.* 6*d.*, buyers. South Aurora, 9*s.* to 11*s.* Sweetland Creek, 12*s.* to 15*s.* Tankerville, 10¼ to 10½. Tecoma done at 8*s.* Tharsis opened at 20⅛, but improved to 20½; closing 20¾ to 20⅝. West Tankerville, 35*s.* to 37*s.* 6*d.*; preference, 40*s.*, buyers. Yorke Peninsula (ordinary), 7*s.*, buyers. Young's Paraffin, 9⅛ to 9⅜. Scottish Wagon, 10¼ to 10⅞; new shares, 4¼ to 4⅜. The following were the rates of continuation current to-day:—Contangoes: 1*d.* on Canadian Copper Pyrites; 1*d.* on Emma; 1½*d.* on Glasgow Caradon; 2*d.* on Port Washington; 1*d.* on Huntington; 2½*d.* on Marbella; 3*d.* on Young's Paraffin. Even: Monkland Iron, Richmond, Tharsis (7*l.* paid). Backwardations: 6*s.* on Shotts Iron; 1*s.*, 1*s.* 6*d.*, 2*s.* 3*d.*, 2*s.* on Tharsis. The only alteration of import note on these rates is the increased "back" on Tharsis.

On TUESDAY the new account opened for settlement July 13; July 10 will be contango day. A moderate business done. Chapel House, 5*s.* 9*d.*, sellers. Chantales, 8*s.* 3*d.* to 8*s.* 9*d.* Clee Hill Colliery, 2*s.*, sellers. Dalmeny Oil, 5 to 5⅛. Ebbw Vale, 9¼ to 9⅜. Frank Mills, 10*s.* 6*d.*, sellers. Gold Run, 15*s.*, sellers. Gunnislake (Clitters), 52*s.* 6*d.*, sellers. Huntington done at 15*s.* to 16*s.*, closing 16*s.* to 17*s.* Lochore and Capeldrae done at 6¾. Marbella, 52*s.* 6*d.* to 55*s.* Monkland, 47*s.* 6*d.* to 50*s.* New Pembroke, 9*s.* 6*d.*, sellers. Omoa and Cleland, 33*s.* to 36*s.* Pennerley, 35*s.* to 38*s.* 9*d.* Penstruthal, 16*s.*, sellers. Pestarena United done at 5*s.* 3*d.*, closing 5*s.* 6*d.*, sellers. Plynlimmon, 3*s.* to 5*s.* Prince of Wales, 6*s.*, sellers. Rica, 1*s.* 6*d.*, sellers. Richmond done at 8¼, closing 8¼ to 8⅜. Rookhope, 16*s.* 6*d.*, sellers. Roman Gravels, 14 to 14½. Tharsis opened at 20⅛, improved to 20¾, and were afterwards done at 20⅝ and 20¾, closing 20⅝ to 20¾. New shares, 14 to 14½. West Tankerville, 38*s.* 3*d.*, sellers; preference done at 40*s.* for cash, closing 2 to 2¼. Yorke Peninsula (ordinary), 7*s.*, buyers. Young's Paraffin done at 8⅞ and 8 15 16ths, closing 8⅞ to 9. Scottish Wagon, 10¼ to 10⅝; new shares, 4¼ to 4⅜.

MONKLAND IRON AND COAL COMPANY (Limited).—At the last meeting of this company it will be remembered a resolution was submitted authorising the directors to accept surrender of preference shares carrying 7 per cent. dividend, and to issue in lieu of each a preference share carrying 5 per cent. dividend, any deficiency in such dividend to be paid out of the profits of any succeeding year or years before any ordinary dividend be paid, and, in order that more time might be given for the consideration of this proposal, its confirmation was postponed until an adjourned meeting. This meeting was held on Friday, and the Chairman then said the result of postponing the matter was that the directors had received the assent of a very large majority of the preference shareholders, representing considerably over four-fifths of the interest of the company, and they were hopeful, if the proposal was carried, that ultimately there might be no dissenters. The proposal was then agreed to, which was all the business.

On WEDNESDAY market neglected. Benhar (new), 6⅞ to 7. Canadian Copper Pyrites done at 24*s.* 6*d.* Dalmeny Oil, 5 to 5⅛; Darlington Iron, 2, sellers. Huntington done at 17*s.*, closing 15*s.* to 17*s.* Kapunda, 2*s.* 6*d.*, sellers. Marbella, 55*s.* to 57*s.* 6*d.*; Monkland, 50*s.* to 55*s.*; Seven per Cent. Preference, 90*s.* to 100*s.*; Omoa and Cleland, 36*s.* to 40*s.*; Penstruthal, 14*s.* 6*d.* to 15*s.* 6*d.*; Pestarena United, 5*s.* 6*d.*, sellers. Plynlimmon, 4*s.*, buyers. Port Phillip, 5*s.* to 6*s.* 3*d.*; Prince of Wales, 6*s.* 6*d.*, sellers; Roman Gravels, 14¼ to 14¾; Santa Barbara, 30*s.*, buyers; Scottish Australian, 28*s.* 9*d.* to 31*s.* 9*d.*; South Aurora, 9*s.* to 10*s.* Tharsis opened at 20⅝, but declined to 20¼, closing better at 20⅜ to 20½; new shares, 13½ to 13¾. Yorke Peninsula (ordinary), 7*s.*, buyers. Young's Paraffin done at 8⅞, closing 8⅞ to 9. Scottish Wagon done at 10¾; new shares, 4¼ to 4⅜.

Subjoined are this week's quotations, &c, of mining and metal shares quoted on the Scotch Stock Exchanges:—

Capital. Per share.	Paid up.	Dividends. Rate per cent. per annum. Previous.	Last.	Description of shares.	Last price.
				COAL, IRON, STEEL.	
£10	£5	£10	£ 8½	...Acriston Coal (Limited)	7¼
10	10	14	9	...Benhar Coal (Limited)	10⅛
10	7	14	9	... Ditto	6⅞
100	40	12½	7½†	...Bolckow, Vaughan, and Co. (Lim.)	A. 51¼
10	10	10	10	...Cairntable Gas Coal (Limited)	8
10	10	5	nil	...Chillington Iron (Limited)	3⅞
82	29	7	½†	...Ebbw Vale Steel, Iron, and Coal (Lim.)	9½
10	5	nil	nil	...Fife Coal (Limited)	3½
10	10	—	—	...Glasgow Port Washington Iron & Coal (L)	2
10	10	—	—	... Ditto Prepaid	2
10	10	—	—	...Lochore and Capledrae (Limited)	6¾
10	10	nil	nil	...Marbella Iron Ore (Limited)	2¾
10	10	nil	nil	...Monkland Iron and Coal (Limited)	2½
10	10	7	7	... Ditto Guaranteed Preference	4½
100	100	nil	nil	...Nant-y-Glo & Blaina Ironworks pref. (L)	20
6	5	15	nil	...Omoa and Cleland Iron and Coal (Lim.)	36*s.*
1	1	15	15	...Scottish Australian Mining (Limited)	1½
1	1*s.*	15	15	... Ditto New	8*s.* 6*d.*
50	50	10	5	...Shotts Iron	73
10	10	10	5	... Ditto New, issued at 2½ prem.	10
				COPPER, SULPHUR, TIN.	
4	4	—	—	...Canadian Copper Pyrites (Limited)	24*s.* 6*d.*
4	3	—	—	... Ditto (£3 paid)	10*s.*
10	7	20*s.*	20*s.*	...Cape Copper (Limited)	41
2	2	—	—	...Dunsley Wheal Phœnix Tin (Limited)	9*d.*
1	1	12½	15	...Glasgow Caradon Copper Mining (Lim.)	28*s.* 6*d.*
1	15*s.*	12½	15	... Ditto New	20*s.*
10	9	nil	nil	...Huntington Copper and Sulphur (Lim.)	17*s.*
25*s.*	23*s.*	—	—	...Kapunda Mining (Limited)	2*d.*
4	4	—	—	...Pamulcillo Copper (Limited)	2
10	10	6†	6†	...Rio Tinto (Limited)	5½
20	20	—	—	... Ditto, 7 per cent. Mortgage Bonds	14
100	100	—	—	... Do., 5 p. ct. Mor. Deb. (Sp. Con. Eds.)	53
10	10	nil	nil	...Russian Copper (Limited)	2¾
10	10	25	22½	...Tharsis Copper and Sulphur (Limited)	20⅜
10	7	25	22½	... Ditto New	13¾
1	1	—	—	...Yorke Peninsula Mining (Limited)	7*s.*
1	1	—	—	... Ditto, 15 per cent. Guaranteed Pref.	⅝
				GOLD, SILVER.	
1	1	5	5	...Australian Mines Investment (Limited)	8*s.* 9*d.*
20	20	—	—	...Emma Silver Mining (Limited)	15*s.*
10	10	—	—	...Flagstaff Silver Mining (Limited)	1¾
5	5	—	—	...Last Chance Silver Mining (Limited)	10*s.*
5	5	—	35	...Richmond Mining (Limited)	8½
				OIL.	
10	7	5	5	...Dalmeny Oil (Limited)	5
10	10	—	2½	...Uphall Mineral Oil (Limited)	5
10	8½	5	9	...Young's Paraffin Light & Mineral Oil (L)	8⅞
				MISCELLANEOUS.	
50	25	16	16	...London and Glasgow Engineering & Iron Shipbuilding (Limited)	19
20	14½	—	—	...Peruvian Nitrate (Limited)	12
10	10	8	5	...Scottish Wagon (Limited)	10¾
10	4	8	5	... Ditto New	4¾

† Interim. ‖ Per share.

Last day for this account July 10; settling day, July 13.

NOTE.—The above lists of mines and auxiliary associations is as full as can be ascertained, Scotch companies only being inserted, or those in which Scotch investors are interested. In the event of any being omitted, and parties desiring a quotation for them and such information as can be ascertained from time to time to be inserted in these lists, they will be good enough to communicate the name of the company, with any other particulars as full as possible.

J. GRANT MACLEAN, Stock and Share Broker.

Post Office Buildings, Stirling, June 29.

COAL AND METALS AT SAN FRANCISCO.

In his just-published report on the trade and commerce of California during 1875, Her Majesty's Consul gives us some items of information respecting the coal and metal trades in that State. He commences by furnishing a tabulated statement of the receipts of coal during the past five years from Australia, England, Vancouver Island, and from various parts of the United States. The most noticeable feature in this table he considers to be the increased receipt of English coal. Vancouver Island and Washington Territory are supplying increased quantities, whilst the local coal (lignite) mines have not yielded so largely during the past year. A comparatively new mine in Vancouver Island (Wellington) is supplying coal of a superior quality to any previously received from the Island. The supply from Australia has not diminished, nor is it thought likely to do so as long as a large amount of shipping is required to carry away the productions of the State, whatever price may happen to rule. In 1875 it is not believed that importers derived any profit from this business. With regard to metals, we find that the imports in 1874-5 consisted of—

	1874.	1875.
Iron, pig—tons	8,405	28,485
,, bar—bars	118,571	200,893
,, plate—pieces	21,641	32,484
,, various—bundles	2,418	36,228
,, ,, —cases	771	118
,, ,, —pieces	1,596	20,602
Tin plate—boxes	80,263	78,020
Steel—cases	1,271	9,341
,, —bundles	11,246	2,490
Sheathing metal—cases	775	1,078

Mr. Booker says that the trade has been for many years controlled by three or four wealthy firms, but the closing of one of the establishments, together with a considerable falling off in the demand for iron, has caused a change, and there is a probability of the trade being a more open one for the future, but prospects are not inviting, since eastern manufacturers are pressing their goods on the Californian market at prices which forbid the manufacture there on account of the dearness of the raw material; local manufacturers have already almost given up the manufacture of ploughs, harrows, wagons, &c. The demand for bar-iron has fallen off considerably, but the consumption of sheet has increased in a slight degree. The demand for pig-iron has greatly increased, and the local foundries have done a much greater business than in any previous year, and the orders for mining machinery are said to be immense. The monthly quotations given by H. M.'s Consul show marked fluctuations during the year; the extremely high prices at the beginning caused foundrymen to order largely at the quotations given, and importers continuing to receive their regular supplies caused the market to fall from $50 at the opening of the year to $32 for soft, and from $60 to $32 for white.

Tin-plate was largely imported by salmon packers direct, and others purchased largely; very much of that sold, however, barely covered the cost and charges. The prospect of a large demand in the current year is considered to be good, particularly from salmon fisheries. Steel of American manufacture came into favour, and it is thought to be only a matter of time when the foreign manufactured article will cease to be imported. Large consumers of steel are using American in the manufacture of axes, chisels, scythes, and edged tools generally, and also for hammers and sledges. One firm, Mr. Booker remarks, has had control of the lead trade on the coast through its smelting works; it has manufactured shot, bar, pig-sheet, and pipe lead to the full extent of the wants, and has had a large amount of pig-lead for shipment to New York and England. These smelting works do a large business in the purchase and handling of rebellious ores.

BOLT AND SCREW MACHINERY.—According to the invention of Mr. F. M. F. CAZIN, of Colorada, the bolts have offsets cut on the thread. Corresponding offsets are cut in the nut. The nut can, therefore, be screwed in, but cannot be screwed off so long as the pressure is exerted against the underside of the nut. The invention consists also in a three-roll rolling machine for forging the nuts.

MANUFACTURE OF GAS.—Mr. F. W. COLLS, of Erith, proposes to use gas retorts, either vertical or horizontal, one of which is to be charged with chalk or limestone, and a second or carburetting retort is to be charged with charcoal or coke, or any other carbonaceous materials, and the two retorts are to be connected by a suitable pipe. In some instances he proposes using a third retort, through which the combined gases are passed. At a short distance from the gas retorts he fixes a tank or reservoir containing hydro carbon, or other oil or spirit, and connected by a pipe with one of the gas retorts.

IMPROVEMENTS IN VALVES.—The novelty in the invention of Mr. JAMES CORT, of Lower Bland-street, Southwark, consists—1. In fixing to the screw socket of a disc valve a lever or handle, by means of which a to-and-fro motion may be given, so that as the valve is being closed the disc will rub away the dirt which is deposited on the seat of the valve; the said seat, instead of being bored out to receive the disc, is left square.—2. In fixing a cam or lever on a spindle inside the valve chamber, which on being moved round lifts up the valve to open it, or allow it to fall in the seat to close it.

MANUFACTURE OF STEEL.—According to the invention of Messrs. SHAW and HUTCHINSON, of Wolsingham and Spennymoor, molten cast-iron from the blast-furnace is run or conveyed to a heating furnace, or a stationary or rotating puddling-furnace, where it is puddled. After puddling and hammering in the ordinary way it is melted in a Siemens or other furnace with a mixture of pig-iron and spiegeleisen, or ferro-manganese. Steel is produced which may be cast into ingots or other shapes. Ingots taken while hot and reheated may be forged or rolled into rails, plates, bars, or other articles.

PREVENTING PRIMING.—Mr. WILLIAM MAJOR, of Copenhagen, has invented a new (or improved) means or method for preventing priming in steam boilers, and also preventing the interior of such boilers from becoming encrusted with the saline and earthy parts of the water used to generate steam therein. He finds that this may be done by the introduction into steam boilers of a small quantity of petroleum or other similar mineral oil, the said oil being mixed with the water used to generate steam.

ENAMELLING IRON.—The invention of Messrs. NIEDRINGHAUS, of St. Louis, Missouri, relates to an improvement in enamelling sheet-iron by means whereof a beautifully mottled and more durable enamel is obtained. This is effected by causing an oxydation of the metallic base during the enamelling process, and the oxydation is accomplished by having sufficient acid present in the glaze while the latter is being dried upon the metal previous to the baking. The omission of the washing of the metal in the usual alkaline bath facilitates the operation.

DRIVING-BAND JOINTS.—The invention of Mr. H. A. T. EHRHARDT, of Düsseldorf, consists in the use of steel trough-shaped cramps in lieu of screw bolts or other fastenings for securing together the flanges of pipes, plates, &c., the said cramps being made with a somewhat narrower space between the edges of the trough than the thickness of the two flanges to be secured, so that when the cramp is sprung open somewhat, and placed over the edges of the flanges, it will nip these firmly together. The back of the cramp may be corrugated to give greater strength. The cramps may also be used for joining the ends of driving bands.

RAISING WATER.—The apparatus invented by Messrs. VICKERS and MALCOLM, of Tynemouth and South Shields, consists of an arrangement of vertical pipes, by means of which a column of water from a head is caused to produce a pressure on a hydraulic ram or valve, through which pressure is communicated to a turbine, to the shaft of which is connected a force pump, whereby a portion of the water is returned to the head.

COMPRESSING AIR.—Some improvements in machinery for compressing air, and in engines driven by the same, parts of which are applicable to other engines, have been invented by Mr. H. P. HOLT, of Leeds. The first part of the invention consists in raising the required pressure of air gradually in several successive compressing cylinders or areas, diminishing according to the volume of air to be dealt with, having receivers with cooling surface between each cylinder to avoid raising the temperature, or in lieu of several cylinders passing the air several times through the same cylinder, but retaining the several receivers as before in order to raise the required pressure, and diminishing the number of strokes each time the air is passed through, according to its volume, and having automatic gear to open connections alternatively with the progressive receivers, and proportioning the requisite number of strokes communicating with the several receivers in turn, according to the volume of air at the then existing pressures.

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The plant is at present sufficient for the production of 30 tons of spelter per week and may easily be increased (the greater part of the land being let off for farming); there are extensive buildings for storing blende, and heated rooms for making and storing retorts.
The works are now in operation, and with a production of only about 11 tons of spelter per week considerable profit has been realised during the last two years. There are several collieries in operation in the immediate neighbourhood, and the works are within easy reach of the North Wales blende-producing mines.
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THREE 30 ft. by 6 ft. 6 in. SINGLE-FLUED BOILERS, with all fittings complete—one of the above nearly new.
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To develope the mines more rapidly, TWO THOUSAND additional SHARES have been created, and part are OFFERED to the PUBLIC at par price of £1 each.
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In 5000 shares of £1 each.
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In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the EAST TRUMPET MINING COMPANY.—By direction of His Honor, the Vice-Warden, Notice is hereby given, that on Thursday, the 13th day of July next, at the Registrar's Office, at Truro, in the county of Cornwall, at Eleven o'clock in the forenoon, this Court will PROCEED to MAKE a CALL of TWO SHILLINGS AND THREEPENCE PER SHARE on all the contributories of the said company settled on the List of Contributories as present members thereof.
All persons interested therein are entitled to attend at the time and place aforesaid to offer objections to such call.
JOHN HENRY HAMLEY, Official Liquidator.
Dated Stannaries Court Office, Truro, June 27th, 1876.

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The coal is bituminous and of excellent quality, and there is a ready sale for it amongst the numerous works which are carried on in the neighbourhood, and it is also sought for by vessels trading to and from the Port of Llanelly.
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Llanelly, June 28th, 1876.

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ONE STEAM BOILER with fittings, 500 feet of steam piping, 2 winding gins, 1 gin rope, 2 patent steam pumps, 1 hoisting crab and rope, 4 wheelbarrows, 6 picks, 36 pick shafts, 2 shovels, 4 saws, 1 axe, 2 hammers, 15 hammer shafts, 4 large water casks, 8 mine buckets, 4 barrels, 2 pair of standards, 2 tumbletrees, 2 augers, 2 tumbletree ropes, 3 fire pans, 500 yards of water troughing, and about 3000 feet of larch pit wood.
The Mine has been thoroughly proved, and a steady output may, it is believed, be relied upon.
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The Llangynog Lead Mines have been a highly productive and dividend-paying property.
The mines, machinery, and plant are in working order, and considerable quantities of ore are now being raised.
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Ayr, June, 1876.

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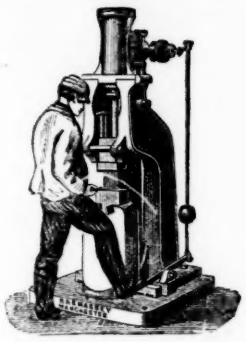

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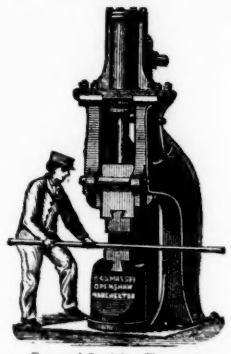

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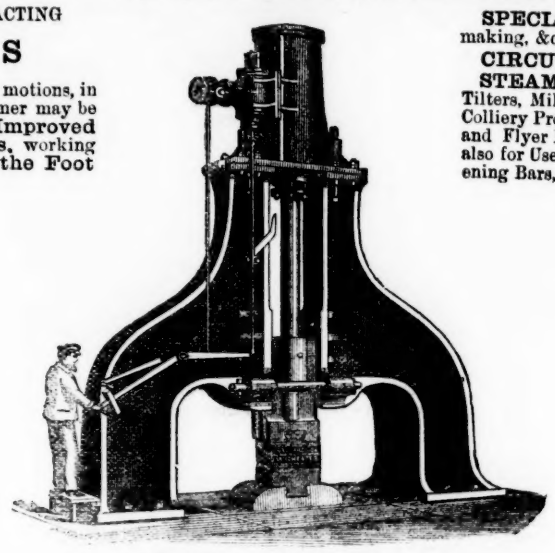

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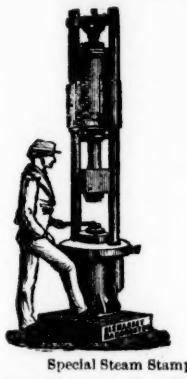

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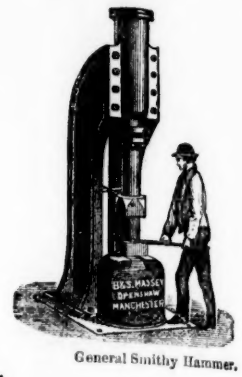

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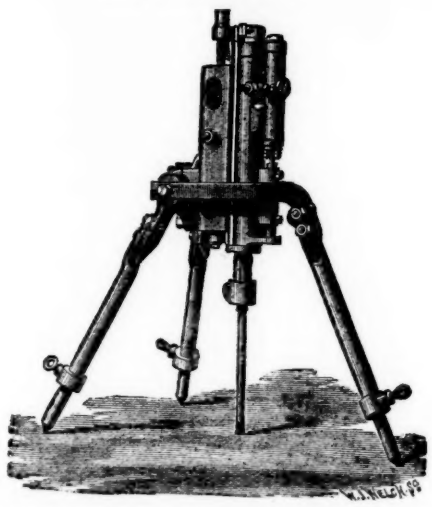

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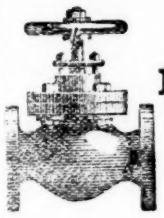

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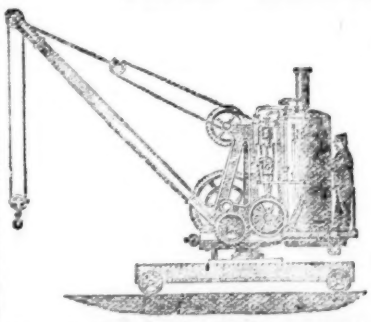

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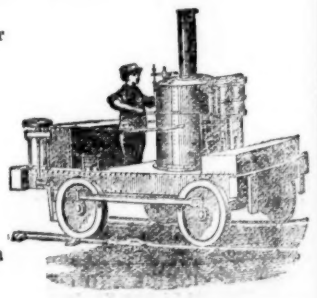

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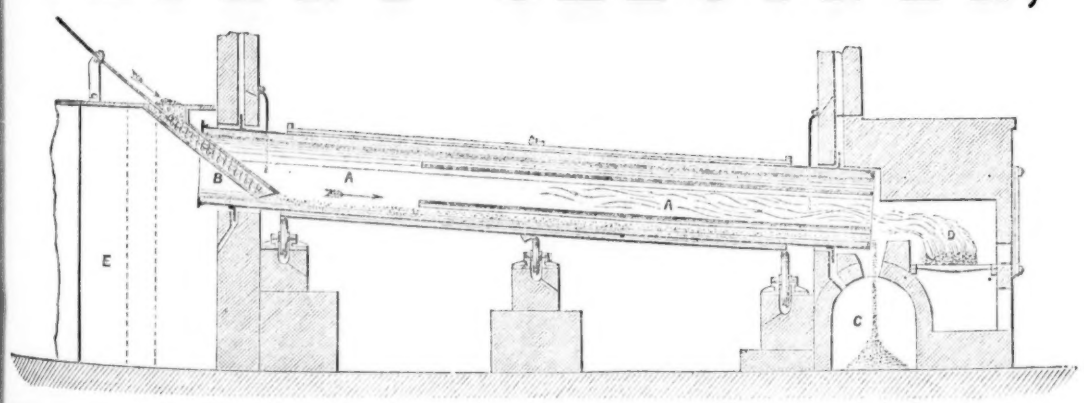

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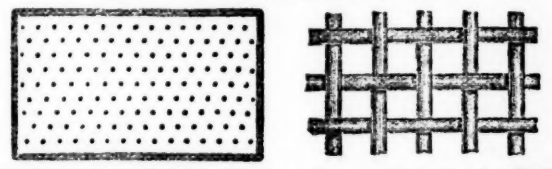

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THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk	Clos. Fr.	Total divs.	Per share.	Last paid
1,500	Alderley Edge, *c*, Cheshire*	10 0 0	—		12 11 8	0 5 0	Jan. 1876
15,000	Palmynheer, *t*, Wendron (4000 to 1s.)	1 0 0	—		0 2 0	0 2 0	Nov. 1875
80,000	Bampfylde, *c, t, ma.*, Devon*	1 0 0	1⅝	1¾ 1⅝	0 2 0	0 2 0	June 1873
200	Botallack, *t, c*, St. Just§	116 5 0	45	40 45	619 15 0	5 0 0	Aug. 1872
4,000	Brookwood, *c*, Buckfastleigh	1 16 0	2	1½ 2	3 16 0	0 2 0	Nov. 1875
3,448	Cargoll, *s-l*, Newlyn§	6 2 0	—		4 16 3	0 12 6	Oct. 1872
6,400	Cashwell, *l*, Cumberland*	2 10 0	—		1 7 6	0 2 0	Aug. 1875
1,000	Carn Brea, *c, t*, Illogan†	35 0 0	38	36 38	308 0 0	1 0 0	Feb. 1874
6000	Cath. & Jane, *l.** Penrhyndendraeth	5 0 0	—		0 7 6	0 7 6	June 1871
2,250	Cook's Kitchen, *t*, Illogan†§	22 9 9	4	3 3¼	11 17 0	0 7 6	Jan. 1873
10,240	Devon Gt. Consols, *c*, Tavistock†* §	10 14 10	3⅝	2½ 3	118 10 0	0 12 0	May 1872
4,296	Dolcoath, *c, t*, Camborne	6 0 0	2	1½ 2	3 16 0	0 2 0	May 1876
6,000	Drake Walls, *t, c*, Calstock	6 10 0	2½	2 2½	20 7 6	0 7 6	Oct. 1874
2,800	Foxdale, *l*, Isle of Man*†	2½ 0 0	—		82 5 0	0 10 0	Feb. 1876
40,000	Glasgow Cara..c* [30,000 £1 p., 10,000 15s. p.]	1 0 0	1¼	1 1¼	0 11 10	0 2 0	Jan. 1876
18,000	Great Dyliffe,* *l*, Montgomeryshire	4 0 0	—	4¼ 4½	0 2 6	0 2 6	Apr. 1876
15,000	Great Laxey, *l*, Isle of Man*	4 0 0	17½	16½ 17½	19 13 0	0 10 0	Apr. 1876
615	Great Retallack, *l, bl*, Perranzabuloe	5 18 6	1¾	1 1½	0 1 6	0 1 6	May 1876
25,000	Great West Van, *t*, Cardigan*	2 0 0	⅝	½ ⅝	0 2 0	0 0 4	Aug. 1874
5,808	Great Wheal Vor, *t, c*, Helston†§	41 12 6	¾	½ ¾	15 19 6	0 2 6	June 1872
6,400	Green Hurth, *l*, Durham*	0 5 0	—		1 12 0	0 4 0	Oct. 1874
20,000	Grogwinion, *l*, Cardigan*	2 0 0	7	6 6½	0 5 6	0 2 6	Jan. 1876
9,830	Gunnislake (Clitters'), *t, c*	5 5 0	2½	2 2¼	0 12 9	0 2 0	June 1876
1,024	Herodsfoot, *l*, near Liskeard†	8 10 0	3⅛	3 3¼	62 5 0	0 15 0	Oct. 1872
180,000	Hingston Down, *c*, Calstock*† (£1 sh.)	2 5 0	¾	½ ¾	4 4 0	0 1 0	Nov. 1875
25,000	Killaloe, *s*, Tipperary	1 0 0	—		0 3 11½	0 0 6	Mar. 1873
400	Lisburne, *l*, Cardiganshire	18 15 0	60	55 60	552 10 0	1 0 0	Mar. 1876
14,000	Llanidloes,* *l*, Montgomery	3 0 0	3½	3 3½	7½ per cent.		Nov. 1875
6,120	Lovell, *t*, Wendron	0 10 0	—		0 17 6	0 1 6	Jan. 1871
9,000	Marke Valley, *c*, Caradon*	5 0 6	2	1¾ 2	7 15 0	0 2 0	Jan. 1876
11,000	Melindur Valley, *l*, Cardigan*	3 0 0	—		0 7 2	0 3 7	Jan. 1871
8,000	Minera Mining Co., *l*, Wrexham*..	5 0 0	16	15 16	64 16 2	0 6 0	May 1876
2,000	Mining Co. of Ireland, *ci, c, l**	7 0 0	5½	5¼ 5⅜	23 11 6	0 3 6	Jan. 1876
512	North Busy, *c*, Chacewater	3 9 6	2¼	2 2¼	0 10 0	0 10 0	Dec. 1875
12,000	North Hendre, *l*, Wales	2 10 0	—		1 2 6	0 2 6	Nov. 1875
2,000	North Levant, *t, c*, St. Just§	12 2 0	—		4 13 0	0 0 12	Sept. 1873
27,855	Old Treburgett,* *s-l*, ordinary shares	1 0 0	—		0 0 9	0 0 9	Feb. 1874
9,258	Old Treburgett,* *s-l* (10 per ct. pref.)	0 10 0	⅛	⅛ ⅛	0 1 4½	0 0 6	July 1874
5,000	Penhalls, *t*, St. Agnes	3 0 0	1½	1 1½	3 13 6	0 2 0	July 1875
45,793	Penstruthal, *t, c*, Gwennap	2 0 0	¾	¾ ⅞	0 2 8	0 0 8	Nov. 1875
6,000	Phœnix, *t, c*, Linkinhorne	4 13 4	—		39 19 10	0 4 0	Nov. 1872
18,000	Prince Patrick,* *s-l*, Holywell	1 0 0	—		0 14 0	0 1 3	Jan. 1876
1120	Providence, *t*, Lelant*§	17 16 7	2½	2 2¼	104 12 6	0 10 0	Sept. 1871
12,000	Roman Gravels, *l*, Salop*	7 10 0	15¼	14½ 15¼	6 4 6	0 8 6	May 1876
512	South Caradon, *c*, St. Cleer	1 5 0	105	100 110	728 0 0	2 0 0	May 1876
6123	South Condurrow, *t, c*, Camborne†..	6 5 6	4¼	3¾ 4¼	1 18 6	0 3 6	June 1876
10,000	So. Pr. Patrick,* *s-l*.(8000 sh. issued)	1 0 0	—		0 7 0	0 1 0	Oct. 1875
12,000	Tankerville, *l*, Salop*	6 0 0	10½	10 10½	4 7 0	0 5 0	May 1876
600	Tincroft, *c, t*, Pool, Illogan†	9 0 0	18	18 18½	49 8 6	0 5 0	May 1876
15,000	Van, *l*, Llanidloes*	4 5 0	38	36½ 37½	18 5 6	0 16 0	June 1876
3,800	W. Chiverton, *l*, Perranzabuloe†	12 10 0	17½	16½ 17½	54 0 0	0 10 0	Apr. 1876
1783	West Poldice, St. Day	10 0 0	—		1 14 0	0 4 0	Feb. 1876
512	West Tolgus, *c*, Redruth	95 10 0	65	60 62½	13 10 0	1 5 0	Apr. 1876
2048	West Wheal Frances, *t*, Illogan	27 3 9	7	6½ 7	3 12 6	0 5 0	Oct. 1871
12000	West Wye Valley,* *l*, Montgomery	3 0 0	4½	3½ 4½	0 3 0	0 3 0	May 1876
512	Wheal Basset, *c*, Illogan†§	11 2 6	17½	12½ 15	638 10 0	1 10 0	Aug. 1872
2048	Wheal Jane, *t*, Kea	2 13 10	1¼	1 1¼	8 5 0	0 5 0	July 1871
4285	Wheal Kitty, *t*, St. Agnes	5 4 6	2¼	2¼ 2¼	11 19 6	0 2 6	Dec. 1874
80	Wheal Owles, *t*, St. Just§	86 5 0	150	140 150	522 10 0	4 0 0	Aug. 1872
6000	Wheal Prussia, *t*, Redruth	2 0 0	—		0 3 0	0 2 0	Dec. 1875
55000	Wicklow *c, su, t*, Wicklow	2 10 0	2	1¾ 2	52 9 0	0 2 6	Mar. 1872
10000	Wye Valley, *l*, Montgomery*	3 0 0	7	6½ 7	0 6 0	0 3 0	Aug. 1875

FOREIGN DIVIDEND MINES.

35500	Alamillos, *l*, Spain*†	2 0 0	2½	1¾ 2¼	1 12 3	0 2 6	Mar. 1876
30000	Almada and Tirito Consol., *s*†	1 0 0	¾	½ ¾	0 6 3	0 1 0	May 1876
20000	Australian, *c*, South Australia†	7 7 6	2	1½ 2	0 15 6	0 2 0	July 1875
10000	Battle Mountain,* *c*, (6240 part pd.)	5 0 0	—		0 10 0	0 10 0	Nov. 1872
15000	Birdseye Creek, *g*, California*	4 0 0	1¾	⅝ ⅞	0 14 0	0 2 6	June 1874
12320	Burra Burra,* *c*, So. Australia	5 0 0	—		70 0 0	0 10 0	Oct. 1872
20000	Cape Copper Mining,*† So. Africa..	7 0 0	43	38 43 xd	24 15 0	1 0 0	June 1876
40000	Cedar Creek, *g*, California*	5 0 0	⅝	½ ¾	0 5 0	0 2 6	June 1878
30000	Central American Association*†	0 16 6	—		0 6 0	0 1 0	July 1876
15000	Chicago, *s*, Utah*	10 0 0	6¼	5½ 6	2 0 0	0 4 0	May 1876
21000	Colorado Terrible, *s-l*, Colorado*†	5 0 0	1¼	1¼ 1¾	0 13 6	0 4 0	Jan. 1875
1,000	Coplapo, *c*, Chili (£5.0 shares)	16 15 0	—		7 8 5	0 2 6	Jan. 1876
60000	Don Pedro North del Rey*†	0 16 0	⅜	⅛ ⅜	2 5 9	0 2 0	Mar. 1872
24500	Eberhardt and Aurora, *s*, Nevada*†	10 0 0	9¼	9 9¼	1 5 0	0 5 0	July 1876
50000	Emma,* *g, s*, Utah	20 0 0	⅛	⅛ ⅛	3 12 0	0 6 0	Dec. 1874
70000	English and Australian, *ci* S. Aust.	2 10 0	1⅛	1⅛ 1⅝	2 18 9	0 2 0	Mar. 1876
15000	Ferguson, *g*, California*	2 0 0	—		0 3 0	0 3 0	April 1872
30000	Flagstaff, *s*, Utah*	10 0 0	2	1¾ 2	4 2 0	0 5 0	July 1878
25000	Fortuna, *l*, Spain*†	2 0 0	—		5 8 10	0 8 0	Mar. 1876
55000	Frontino & Bolivia, *g*, New Gran.*†	2 0 0	2⅛	1⅞ 2⅛	0 1 0	0 1 0	June 1876
30000	Gold Run, *Ayr.*	1 0 0	¾	¾ ⅞	0 2 4	0 0 4	Oct. 1872
68000	Kapunda Mining Co. Australia†	1 3 0	—		0 2 4	0 0 6	June 1873
20000	Last Chance, *s*,* Utah	5 0 0	¼	¼ ¼	0 14 0	0 2 0	July 1878
15000	Linares, *l*, Spain*†	3 0 0	6	5½ 6	15 14 2	0 10 0	Mar. 1876
65000	London and California, *g*††	2 0 0	⅜	⅜ ⅜	0 1 0	0 1 0	July 1875
7837	Lusitanian, Portugal*† (£5 shares)	3 10 0	1½	1 1½	1 11 6	0 1 6	Mar. 1873
5000	Mammoth Copperopolis of Utah, *c, s*	10 0 0	—		0 5 0	0 5 0	Dec. 1872
5000	Mountain Chief, *s*, Utah*	10 0 0	—		0 4 0	0 4 0	Jan. 1872
18000	Prussian Mining & Ironworks, *ci, t.*	30 0 0	—		6 0 0	3 0 0	July 1873
10000	Pontgibaud, *s-l*, France†	20 0 0	18	16 18	20 14 2	1 3 2	Nov. 1875
100000	Port Phillip, *g*, Clunes*†	1 0 0	¾	¼ ¼	1 8 0	0 1 0	Jan. 1872
54000	Richmond Consols, *s*, Nevada*†	5 0 0	8⅛	8¼ 8½	2 14 0	0 7 6	May 1876
40000	Santa Barbara,* *g*, Brazil	0 10 0	1⅞	1¾ 1⅞	0 1 8	0 1 3	Apr. 1876
120000	Scottish Australian Mining Co.*†	1 0 0	1¾	1½ 1¾	15 per cent.		May 1876
60000	Scottish Austral. Mining Co., New...	0 5 0	⅛	⅛ ⅛	15 per cent.		May 1876
112500	Sierra Buttes, *g*, California*†	2 0 0	1⅝	¾ 1¾	1 14 0	0 2 0	Apr. 1876
80000	South Aurora, *s*, Nevada*	5 0 0	⅛	⅛ ⅛	0 14 2	0 0 2	Nov. 1872
£25300	St. John del Rey*† (£5 stock and multiples dealt in)		335	345	½ year...25 p. ct. for June		
15000	Sweetland Creek, *g*, California*†	4 0 0	¾	½ 1	3 8 0	0 2 0	June 1876
20000	Tolima, *g, s*,* So. America	5 0 0	3¼	3 3¼	0 11 6	0 6 6	May 1874
18000	Western Andes, *s*, New Granada	5 0 0	—		2 6 7	0 3 3	Apr. 1876

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Fr.	Clos. Fr.	Last Call.
20000	Anglo-Australian, *g*, Victoria*	2 10 0	—		Sept. 1872
5000	Anguilla Phosphate, West Indies (4000 issued)	10 0 0	—		Fully pd.
12000	Argentine, *g*, Argentine Republic	5 0 0	6½	6 6½	Fully pd.
10000	Australian Central, *g** (also 6000 deferred shares)	1 0 0	—		Fully pd.
3000	Bellavista, *s*, Peru* (£10 shares)	10 0 0	—		Fully pd.
3,000	Blue Tent, *Ayr.*, California	5 0 0	3⅛	3 3¼	Fully pd.
5,000	Braganza, *g*, Brazil*†	0 15 0	—		Oct. 1870
12000	Camp Floyd, *s*, Utah*	10 0 0	—		Fully pd.
30000	Cesena Sulphur Company, Romanga, Italy*	10 0 0	—		Fully pd.
59152	Chontales, *g, s*, Nicaragua*† (and 12,542 of £1 15s.)	2 0 0	⅛	⅛ ⅛	Fully pd.
6000	Clifton, *s*, Colorado*	5 0 0	—		Feb. 1872
16,000	Condor of Chili, *s-l*	5 0 0	6½	6 6½	Fully pd.
10000	Crescent, *g*, Plumas County, California*	1 0 0	—		Fully pd.
35000	Excelsior Hydraulic Gold Washing Co., California*	5 0 0	—		Fully pd.
10,000	Exchequer, *g, s*, California*†	1 0 0	—		Dec. 1871
40000	Holcombe Valley, *g*,* California	1 0 0	2½	1⅞ 2½	Fully pd.
6000	Hornachos,* *s-l*, (£10 shares) Spain	10 0 0	—		July 1873
30000	Imperial Brazilian Collieries, Brazil*	5 0 0	18	14½ 15½	Jan. 1874
100000	I. X. L., *g, s*, California*	1 0 0	—		Fully pd.
50000	Javali, *g*, Nicaragua*	2 0 0	1⅛	1 1¼	Fully pd.
12000	Lanestosa,* *l, z*, Viscaya, Spain (£2 shares)	1 15 0	—		Fully pd.
65000	Malabar, *g*, Colombia* (65000 issued)	1 0 0	—		Mar. 1876
40000	Malpaso, *g*, Colombia* (10000 pref. shares, fully paid)	1 0 0	—		Fully pd.
12000	Menzenberg, *c*, Honnef, Germany*	5 5 0	—		Fully pd.
6000	Monte Loreto, *g, c*, Italy*	5 0 0	—		Fully pd.
66000	New Quebrada, *c*, Venezuela*	5 0 0	—		Fully pd.
20000	New Rosario, *s*, Mexico*	1 0 0	3⅞	3½ 4	Fully pd.
20000	New Zealand Kapanga, *g*, Coromandel*	1 0 0	—		Fully pd.
3000	Oregon,* *g*, Oregon, U.S. (preference shares)	5 0 0	⅞	½ 1	Fully pd.
80000	Panuelillo, *c*, Chili*† (£80000 debentures)	4 0 0	4¼	4 4¼	Sept. 1875
80000	Pestarena United, *g*, Italy*†	4 0 0	2¾	1¾ 2¾	Fully pd.
50000	Rica, *g*, Colombia* (40000 issued)	3 0 0	⅞	⅝ ⅞	Fully pd.
£2,121,000	Rio Tinto,* *c*, Huelva, Spain	1 0 0	—		Fully pd.
150000	Rossa Grande, *g*, Brazil*† (£1 shares)	Stock	60	58 60	Fully pd.
30000	Russia Copper, Orenburg and Ufa*†	0 19 0	⅛	⅛	July 1872
25000	San Pedro, *c*, Chili*	10 0 0	3	2½ 3	Fully pd.
10000	Silver Plume, *s*, Colorado*	2 0 0	1¾	1½ 1¾	Fully pd.
37500	Snowdrift, *s*, Colorado*	1 0 0	—		Fully pd.
30000	Tecoma, *s*, Utah*	2 0 0	—		Fully pd.
20000	Thornhill Reef, *g*, Australia*	10 0 0	¾	½ ¾	Fully pd.
43174	United Mexican, *s*, Mexico*†	1 0 0	⅛	⅛ ⅛	Fully pd.
14000	Utah, *g, s-l*, Utah*	28 15 3	2¾	1¾ 2¾	May 1875
25000	Victoria (London)*, *g*, Australia (25,000 sh. 16s. pd.)	1 0 0	—		Fully pd.
78000	Yorke Peninsula, *c*, South Australia	1 0 0	—		Fully pd.
40000	Yorke Peninsula, *c*, South Australia Preference	1 0 0	1	⅞ ⅞	Fully pd.

† Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing Prices.	
Argentine, 1868, 6 per cent.	54	56
Bolivia, 6 per cent.	16	18
Brazilian, 1865, 5 per cent.	90	92
Chilian, 1866, 7 per cent.	101	105
City of Providence, 5 p.c. coupon bonds	96	98
Egyptian, 1862, 7 per cent.	37	39
Do., 1868, 7 per cent.	38	40
Do., 7 per cent., V.M.L.	40	42
Do., 9 per cent. guar.	46	50
Do., 7 per cent., K.M.L.	37	38

	Closing Prices.	
Foreign and Col. Gov. Trust, 5 p. cent.	75	85
Do., 5 per cent., 2d issue	55	65
Do., 6 per cent., 3d issue	60	70
Do., 1872, 4th issue	60	70
Do., 1873, 5th issue	54	62
Peruvian, 1870, 6 per cent.	13½	14½
Do. 1872, 5 per cent.	11	11½
Russian, 5½ per cent. L. Mort.	78	82
Spanish, Quicksilver Mort., 5 p. cent..	89	91
United States Mort., 6 per cents.	93	95

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. Fr.
40000	Aberdaunant, *l*, Llanidloes*	1 0 0	1⅜	1¼ 1½
10000	Aberystwith,* *s-l*, Cardigan	5 0 0	—	
7800	Alvigg. & Burng.,* *t*, St. Aust. (£2 sh.)	1 10 0	1¾	1½ 1¾
18000	Ambrose Lake, *t, c*, Liskeard	1 18 6	—	
12000	Angleton, *l*, Carnarvonshire*	5 0 0	2⅜	2 2⅛ 2⅜
50000	Ballycummisk,* *c*, Schull	2 0 0	—	
12000	Basford United, *c*, Tavistock	1 17 6	¾	⅝ ¾
28000	Belstone,* *c*, Devon (27,000 fully pd.)	1 0 0	3	2½ 3
15000	Blaen Uchaf, *s-l*, Cardigan	1 0 0	1⅛	⅞ 1⅛
15000	Blue Hills, *t, c*, St. Agnes	2 9 0	—	
2000	Bowden Hill,* *ma*	1 0 0	—	
20000	Brynambor, *l*, Cardigan	1 0 0	—	
4998	Bwadrain, *s-l*, Cardigan*	4 0 0	—	
4127	Bwlch Consols, *s-l*, Cardigan*‡	5 0 0	—	
30000	Caldbeck Fells, *l*, Cumberland*	2 0 0	—	
5384	Carn Camborne, *c, t*, Camborne	5 3 6	¼	⅛ ⅛
10000	Cathedral, *t, c*, Gwennap*	1 10 0	1⅝	1½ 1⅝
20000	Central Foxdale, *l*, Isle of Man*(£2 sh.)	1 0 0	—	
10000	Central Van,* *l, bl*, Llanidloes	5 0 0	—	
24000	Cwm Dwyfor,* *c, s-l*, Carnarvonshire..	1 0 0	—	1¼ 1½
15000	Cwm Nant Ddu,* *l*, Montgomery	1 0 0	—	
3000	Cwmystwith (New) [*5l.* shares]	4 0 0	—	
10000	Denbighshire Consolidated, *c**	3 0 0	3	2 3
658	Ding Dong, *t*, Gulval	5½ 9 6	4	3½ 4
10000	Dubby Syke, *l*, Durham*	0 9 0	¾	⅝ ¾
10000	Duchy Great Consols, *c*, Calstock	5 0 0	—	
512	East Basset, *c*, Redruth*†	77 7 6	2½	2 2½
800	East Black Craig,* *l*, Scotland	25 0 0	—	
4093	East Chiverton, *l*, Perranzabuloe	6 12 0	—	
6000	East Grenville, *c*, Camborne	7 8 6	—	
30000	E. Nant-y-mwyn,* *l*, Brecknockshire.	1 0 0	¾	⅝ ¾
6000	East Tywarnhaile, *c*, St. Agnes	0 10 0	4⅜	4 4⅜ 4⅜
15000	East Van, *t*, Llanidloes*	5 0 0	9	7½ 8
20000	Elgar,* *s-l*, Cardiganshire	1 0 0	1¼	1 1¼
12800	Florence and Tonkin United*	0 10 0	—	
5000	Frank Mills, *l*, Christow	5 6 0	⅝	⅝ ⅝
8000	Frouvellan, *l*, Mont.* [4000 sh. fy. pd.]	1 0 0	—	
3850	Gawton, *c*, Tavistock	4 6	⅝	⅜ ⅝
12000	Glan Clwyd,* *l*, Gwyddelwern	1 0 0	⅞	¾ ⅞
10000	Glan Severn, *s-l*, Fountshire	1 0 0	—	
2000	Gleanoy,* *s-l*, Isle of Man	4 0 0	6½	6¼ 6¾
10000	Glyn,* *l*, Llanidloes	2 0 0	3½	3 3¼
15000	Gobbett, *t*, Darnmoor	1 0 0	—	
12000	Goginan, and Level Newydd, Card., *l*	2 10 0	—	
100000	Gold, *g*, Merionethshire	1 0 0	—	
20000	Goreu,* *s-l*, Carmarthen	1 0 0	—	
7500	Gorsedd and Merdlyn Cons., *l*, Flint	2 10 0	3	2½ 3
20000	Gt. East Foxdale, *l*, I. of Man (1/ sh.)	0 15 0	—	
9500	Great Pant-y-Pydew, *l*, Holywell	2 0 0	—	
6000	Great Wheal Eleanor, *t*, North Bovey	1 0 0	3	2 3
15000	Grosvenor, *l*, Holywell (£1 sh.)	0 7 0	—	
10000	Harehope Gill,* *l*, Durham (£1 sh.)	0 3 6	—	
6410	Harwood,* *l*, Durham	0 15 0	1	⅞ 1
6000	Keswick United, *t**	5 0 0	—	
6000	Killifreth, *t*, Chacewater	1 8 0	1	⅞ 1
25000	Kingston Consols, *s-l*, Cornwall	1 0 0	⅞	⅛ 1⅛
12000	Ladywell,* *l*, Salop	2 10 0	1½	1¼ 1⅜
2500	Levant, *c, t*, St. Just	9 6 6	—	
64	Llandilo, *s-l, bl*, Flintshire	50 0 0	—	
15000	Llanlivery Cons., *t, c, ars*, Llanlivery.	1 0 0	1¼	1¼
25000	Llanrhaiadr, *l*, Montgomery*	2 0 0	—	
30000	Llanrwst,* *l*, Carnarvon	2 0 0	3⅛	2⅞ 3⅛
15000	Llwyn Teify,* *s-l*, Cardigan	1 0 0	—	
6000	Medlyn Moor, *t*, Wendron	1 4 10	1⅝	1½ 1⅝
10000	Mellanear Copper, Hayle*	2 0 0	—	
13000	Monydd Gordden, *l*, Cardigan*	5 0 0	4	3½ 4
4000	Nanty, *l*, Montgomeryshire*	1 0 0	—	
25000	Nanty-Ronen, *s-l*, Cardigan*	1 0 0	—	
12000	Neptune,* *c*, Perranuthnoe	0 5 0	—	
10000	New Belton, *l*, Northumberland*	1 0 0	—	
3000	New Chiverton,* *l*, Perranzabuloe	6 0 0	6½	6¼ 6½
20000	New Consols, *c*, Tavistock*	3 0 0	1	½ 1
8000	New Cricketh,* *l*, Shropshire	2 0 0	—	
8000	New Dolcoath, *t, c*, Camborne*	3 0 0	1⅛	1 1⅛
20000	New East Foxdale, *s-l*, Isle of Man	0 15 0	—	
16000	New Fowey Consols, *t*, St. Blazey*	3 0 0	2	1½ 2
2 00	New Hendra, *t*, Breage	2 9 0	1	¾ 1
10000	New North Pool,* *c*, Illogan	3 0 0	—	
6400	New Pembroke, *t, c*, Par Station	5 8 0	⅝	½ ⅝
5000	New Rosewarne, *c*, Gwinear	5 17 0	¾	½ ¾
3230	New South Merlyn, *l*, Flint*	2 10 0	—	
4 00	North Cornwall, *l*, Cornwall (£5 sh.)	3 0 0	—	
17000	North Laxey,* Isle of Man	2 0 0	1	¾ 1
20000	North Prince Patrick,* *l*, Holywell	1 0 0	1¾	1 1¼
2000	North Wheal Towan, *t, c*, Illogan	1 19 6	—	
1000	North Rosewarne, *c*, Gwinear	6 12 6	—	
8000	North Treleigh Wood, *t*, Redruth*	1 0 0	1¾	1 1¼
5938	North Treskerby, *c*, St. Agnes	3 15 4	—	
6000	Old Talargoch, *l*, Flintshire*	2 0 0	—	
2500	Old Tincroft, *c, t*, Lelant*	4 0 0	4	3 4
16923	Parys Mountain,* *c*, Anglesea	3 0 0	1	¾ ⅞
4000	Pateley Bridge, *l*, Yorkshire	5 0 0	4½	3½ 4
9530	Pedn-an-drea, *t*, Redruth§	9 17 0	—	
6000	Pennant, *l, bar*, North Wales*	5 0 0	5½	5 5¾
12000	Pennerley, *l*, Shropshire*	2 0 0	2⅛	1¾ 2
12000	Pivnlimmon, *l*, Llanidloes*	2 5 0	¾	½ ¾
648	Polrose, *t*, Breage	21 0 0	—	
10000	Port Nigel,* *s-l*, Carmarvonshire	2 0 0	2	1½ 2
2000	Prideaux Wood, *t*, Llanivery	5 0 0	—	
12800	Prince of Wales, *c*, Calstock*‡	1 9 0	⅜	⅜ ⅜
6000	Relistian Consols, *c*, Gwinear	0 10 0	¾	½ ¾
15000	Rookhope, *l*, Durham*	1 10 0	1	¾ ⅞
5869	Rosewall Hill and Ransom, *t*	4 17 6	⅜	¼ ⅜
6000	Rosewarne United, *c, t*, Gwinear	1 10 0	—	
3000	Russell, *s-l*, Swynnbridge	0 6 0	—	
5000	Silvereross,* *c, t*, Marazion	1 0 0	¾	½ ¾
4200	Snowbrook, *s-l*, Montgomery	5 0 0	—	
12000	South Bwadrain, *s-l*, Llanbadarnfawr	0 10 0	—	
5000	South Carn Brea, *c, t*, Illogan	3 1 0	1¼	1¼ 1¾
6000	South Cwmystwith, *l*, Cardiganshire.	0 10 0	2½	2 2⅝
6000	South Darren, *l*, Cardigan*	1 10 0	—	
512	South Dolcoath, *c, t*, Redruth	12 5 0	1⅜	1 1⅜
12000	South Lisburne, *l, bl*, Cardigan*	0 12 6	—	
19000	South Roman Gravels, *l**	1 10 0	1¼	1 1⅛
8000	South Roskear, *t, c*, Camborne	6 10 0	5	4 5
6000	South Tolcarne, *t, c*, Camborne	1 9 0	¾	½ ¾
12000	South Van,* *l*, Montgomeryshire	1 0 0	—	
3000	South Ward, *l*, Beerferris	5 8 0	1¾	⅞ 1⅛
937	South Wheal Crofty, *c*, Illogan	26 0 10	—	
4500	South Wh. Frances, *c*, Illogan†	6 8 4	1⅜	1 1⅜
432	Spearn Moor, *t*, Penzance‡	46 17 9	—	
14000	St. Blazey *t.** (£2 10s. shares)	2 0 0	—	
6000	St. Lawrence, Anal., *l*, Flintshire*	2 0 0	—	
2 00	St. Harmon,* *l*, Montgom	3 0 0	3½	3¼ 3⅜
10000	St. Patrick, *l*, Halkin, Holywell*	1 0 0	1⅛	1¼ 1½
6000	Success, &c., *l*, Derb. (12,000 called).	1 0 0	—	
16000	Sunnyside,* *l*, Durham	2 0 0	—	
30000	Talybont,* *s-l*, Talybont	1 0 0	—	¾ 1
6400	Teesdale,* *t*, Durham	0 18 0	2	1¾ 2
14000	Teign Valley, *l, bar.*, Bridford	1 0 0	—	
10000	Temple, *l*, Cardigan*	1 0 0	2¼	2 2¼
12000	Treheigh Consols, *s-l*, St. Ive	0 4 0	⅜	¼ ⅜
5000	Treleigh